MISSING THE MARK: AN EVALUATION OF THE FEDERAL TRADE COMMISSION'S RED FLAG INITIATIVE AS A LONG-TERM SOLUTION TO DECEPTIVE WEIGHT LOSS PRODUCT ADVERTISING

Mara Schein
Department of Policy Analysis and Management
Cornell University
Ithaca, NY 14850, U.S.A
E-mail: mgs246@cornell.edu
May 2018

ACKNOWLEDGEMENTS

The collection of data used in this study was partially supported by funds received from the Hunter R. Rawlings III Cornell Presidential Research Scholars program. I would like to thank Professor Rosemary Avery (Cornell University) and Professor Matthew Eisenberg (Johns Hopkins University) for their excellent guidance and mentorship in conducting this research. Additionally, I would like to express tremendous gratitude to the members of Cornell's PhADS lab, Brandon Senzer, Aerin Brown, and Peter Ernst for their invaluable assistance and support during the research process.

ABSTRACT

This study examines the efficacy of the Federal Trade Commission's Red Flag initiative (2003), which aimed to curb the prevalence of seven deceptive ("Red Flag") claims in over-the-counter weight loss product advertising. The principal component of this effort was the Commission's promotion of voluntary guidelines which encouraged media outlets to screen advertisements for the seven Red Flag claims prior to publication. By analyzing the content of all English-language advertisement airings appearing in nationally circulated print magazines or any (local or national) TV programs between 2010 and 2011, this study evaluates the success of the Red Flag initiative as a long-term regulatory solution to deceptive advertising in this market.

This study finds that the Federal Trade Commission's Red Flag initiative, which essentially relied on industry self-regulation, failed to halt the dissemination of the seven Red Flag claims during the time period analyzed. Moreover, in response to the Commission's actions, manufacturers appear to have engaged in offsetting behaviors and employed other creative content to imply the same "deceptive" information in their advertising, allowing them to avoid scrutiny while continuing to mislead consumers. The study explores both individual consumer and market consequences of the findings as well as raises policy implications for future regulatory action.

TABLE OF CONTENTS

LIST OF TABLES

METHODS

RESULTS

APPENDICES

LIST OF FIGURES

METHODS

APPENDICIES

CHAPTER ONE: INTRODUCTION

The rising prevalence of the population characterized as obese or overweight has resulted in a growing health and economic crisis worldwide (CDC, 2016). Alarmingly, the United States has been at the forefront of the epidemic, with the highest average adult body mass index (BMI) among developed countries (OECD, 2017). Today, nearly three quarters of American adults qualify as overweight and 39.8% as obese (Hales et al, 2017). In recent years, this issue has become a national priority due to the considerable medical and economic consequences associated with the epidemic (Rosenthal et al., 2017). Overweight and obesity are estimated to cost the U.S. the loss of 7.4 million quality-adjusted-life-years as well as a total of $1.42 trillion in health care and productivity costs annually (Muennig et al., 2006; Waters & DeVol, 2016).

Considering the severe consequences associated with elevated BMI, it is unsurprising that roughly 106.2 million American adults report having attempted to lose weight within the past 12 months (Snook et al., 2017). The government-recommended method of gradual weight loss via diet and exercise, however, requires patience and challenging lifestyle adaptations (NIH, 1998). As a result, the majority of individuals attempting this method do not experience long-term success (MacLean et al., 2011). Frustrated with the tedious pace of weight loss and high propensity for failure, many Americans look to alternatives, supporting a weight loss industry with annual sales above $66 billion (Marketdata LLC, 2017). One weight loss method that has garnered substantial attention is the use of dietary supplements. These products, which often promise fast, effective, safe, and effortless results are popular among American consumers, with 27% of all

adults and 39% of obese adults reporting use at some point during their lifetimes (NORC, 2016).

Despite the widespread consumption of its products, the weight loss dietary supplement industry is subject to the market failure of imperfect information. Since consumers cannot determine a weight loss product's quality prior to use, they are heavily reliant on external cues to maximize utility, such as product labels and advertisements. Critically, however, insufficient federal regulation has allowed for the provision of incomplete and inaccurate information. Specifically, due to the Dietary Supplement Health and Education Act of 1994, products are not required to submit substantiation for their claims prior to sale, nor undergo any governmentally mandated premarket testing for safety or efficacy. In the post-market context, the government does not have the authority to remove ineffective supplements and may only recall unsafe products once proven to result in consumer harm (Nowak, 2010). This slack regulatory landscape creates a fertile breeding ground for persistent deceptive marketing practices. In the presence of deception, promotional content loses its role in the advancement of an efficient allocation of resources in a free-market economy and results in consumer harm (Azcuenaga, 1997).

One detrimental impact on wellbeing stems from incomplete information regarding the health risks associated with these products. For instance, Navarro (2017) conducted a content analysis of weight loss supplements and compared his findings to the substances listed on products' labels, finding that just 28% of products' contents matched the ingredients listed on their labels. Importantly, undisclosed ingredients are not always benign. Between 2013 and 2017, the Food and Drug Administration (FDA) issued 138

public notifications regarding weight loss supplements found to contain one or more unlisted hazardous active ingredients (FDA, 2017). When substances are identified as unsafe, the FDA is slow to respond. In the case of ephedrine alkaloids, for instance, the FDA first publically noted health risks in 1994, but did not successfully institute a ban until a decade later, following the report of 18,000 ephedrine-related adverse health events and nearly 150 associated fatalities (Zell-Kanter et al., 2015). These findings are particularly problematic since over 50% of consumers believe dietary supplements have been tested for safety prior to being sold (Pillitteri et al., 2008)

This research focuses specifically on deceptive claims in weight loss product advertising. The dietary supplement industry spends nearly $840 million annually on advertising (TNS Media Intelligence, 2011). Manufacturers' bold claims regarding fast, dramatic, and effortless results are of particular concern, since, while enticing consumers to try the products, they are often unable to deliver on their infeasible and unsubstantiated claims. Consequentially, such ads have a propensity to result in consumer financial loss and gross market inefficiency. In 2013 the U.S. government released a report that identified fraudulently advertised weight loss products as the most prevalent type of fraud measured. The government estimated that there were 7.6 million incidents in which consumers purchased fraudulent weight loss products in 2011, amounting to sales of approximately $608 million (Anderson, 2013). Moreover, since there is a dearth of reliable empirical evidence supporting the efficacy of over-the-counter weight loss products, consumption of these goods is unlikely to result in weight loss. Additionally, consumers who use these products may become disillusioned with trying to lose weight

and therefore less likely to attempt more effective methods in the future (Polivy and Herman, 2000).

In response to a rise in consumer complaints and pressures from Congress, the Federal Trade Commission (FTC), the governmental agency charged with protecting consumers from unfair business practices, began focusing its enforcement and consumer education efforts on the weight loss industry in the late 1990s. Following a 2002 report indicating that half of weight loss advertisements continued to contained deceptive representations despite the FTC's "unprecedented levels" of engagement, the FTC did something that it had never done before (FTC, 2003). In 2003, the Commission released a media reference guide entitled "Red Flag: Bogus Weight Loss Claims", in which it enumerated seven "scientifically impossible" statements commonly used in advertisements and urged media outlets to screen ads for these statements prior to publication. Soon thereafter, these seven claims, known as Red Flags, became the backbone of the FTC's efforts to curb deception in the industry. The following year, the Red Flag Initiative served as the central pillar of an initiative titled *Operation Big Fat Lie,* in which the FTC launched enforcement actions against parties that included Red Flag claims in their ads, released educational materials aimed at training consumers to spot Red Flag claims, and sent letters to media outlets reminding them to screen for Red Flag claims (FTC, 2004). Then, in 2005, the FTC published a report to "evaluate the effect of the Commission's initiative and accompanying media education campaign" and concluded that there had "been a significant decline in the incidence of Red Flag weight loss claims" (FTC, 2005, p.1). Although the FTC cautioned that its findings may not be generalizable, the Commission voiced considerable confidence that its Red Flag initiative

had been successful. The 2005 report marked a near decade long hiatus in the launch of any new formalized efforts aimed at curbing deception in the industry (FTC, 2014).

Despite the optimism expressed in the FTC's 2005 publication, it contained several critical flaws. First, to make its historical comparisons, the FTC analyzed a non-random sample of just 13 ads published in 2001 and 34 in 2004. As a result, any differences noted between years were far from statistically significant. Second, since the FTC focused on distinct ads rather than airings, its findings did not accurately reflect the ad content to which consumers were actually exposed. Third, the 2001 ads were originally analyzed as part of the Commission's 2002 report which was published before Red Flags were created. It is highly problematic that the FTC did not use a consistent definition of deceptive claims over time. Fourth, the FTC did not include any measures of interrater reliability, which is critical given the subjective nature of the identifying Red Flags. Finally, the 2004 sample of ads was published during a unique time of hyper-vigilance and intense Red Flag promotion. Specifically, the ad collection period began just two months after the Red Flag guidelines were released and during this time, the FTC gave several public statements as well as made multiple speeches before media groups to promote Red Flag screening (Swindle, 2004). Similarly, in the six months between the release of the Red Flag guidelines and the end of the collection period, nearly a dozen false advertising cases were filed against the weight loss industry (FOIA Request, 2018). Given the emphasis placed on Red Flags during the first half of 2004, manufacturers may have been less likely to include Red Flags and media outlets may have been more likely to screen for Red Flags. Consequently, not only did the FTC's evaluation lack external validity, but its findings may have also merely reflected the immediate impact of its

efforts rather than the potential of the Red Flag initiative to serve as a durable solution to deceptive weight loss product advertising.

This research, which analyzes the entire universe of English-language TV advertisement airings as well as all nationally circulated print magazine advertisement airings published in 2010 and 2011 for products covered by the FTC's 2003 Red Flag guidelines, serves as the first evaluation of the Commission's initiative as a long-term solution to deceptive weight loss product advertising. It is valuable to revisit the FTC's Red Flag initiative several years following its launch, since it provides a useful framework for quantifying deception in the market, evaluating the efficacy of the Commission's initiative, and assessing the impact on advertising practices. To accomplish these objectives, ads were coded for the presence of Red Flag claims, as explicitly defined by the 2003 guidelines, as well as other creative content indicative of misrepresentation. These additional measures included statements made in the spirit of Red Flag claims but lacking the precise phrasing, the potentially deceptive characteristics enumerated in the FTC's 2002 weight loss advertising survey, adherence to the FTC's 2009 revision to its *Guides Concerning the Use of Endorsements and Testimonials in Advertising*, and details of the weight loss claims presented in each ad.

Recording the frequency of Red Flag claims as well as additional creative content serves two purposes. First, since Red Flag claims served as the center of the FTC's media screening guidelines and enforcement actions, the former demonstrates the extent to which the initiative successfully prevented ads containing any of the seven statements from airing during the period of study. Second, the latter indicates the extent to which advertisers may have implemented offsetting behaviors to avoid scrutiny during the

screening process while continuing to deceive consumers. As a result, the findings have important policy implications. Even if the frequency of ads containing explicit Red Flag claims is relatively low, the widespread use of other misrepresentative marketing practices may have undermined the initiative's success as a durable solution to deceptive advertising in the market.

In addition to the time period selected for analysis and the multiple measures of possible deception recorded, this study presents several other advantages. First, by including all ad airings rather than just distinct ads, the analysis captures the marketing content to which consumers were actually exposed (i.e., frequency with which Red Flag ads appear in the market). Second, by analyzing advertising content published by individual media outlets and brands, granular information regarding the source of specific marketing practices is provided. Third, since two researchers independently coded the content of each ad, the reliability of findings is shown using multiple measures of interrater reliability. Lastly, although the study does not cover ads disseminated via other media channels (radio, billboards, online), the two platforms covered account for over 90% of all dietary supplement advertising expenditures (TNS Media Intelligence, 2011).

CHAPTER TWO: BACKGROUND

Prevalence, Causes and Consequences of Overweight and Obesity

Rising rates of obesity and overweight, which are commonly defined by body mass index (BMI) cutoffs of over 30 kg/m^2 and 25 kg/m^2 respectively (see Appendix A.1 for definitions of all clinical weight classifications), have resulted in a growing health and economic crisis worldwide (CDC, 2016). Globally, over the past 30 years, mean BMI has increased by an average of $4kg/m^2$ per decade (Finucane et al., 2011). Alarmingly, the United States has been at the forefront of the epidemic, with the highest average adult BMI among developed countries (OECD, 2017). The prevalence of overweight and obesity in the U.S. has more than doubled since 1960 (Fryar et al., 2012). Today, nearly three quarters of American adults 20 years of age and older qualify as overweight, and 39.8% qualify as obese (Hales, Carroll, Fryar, & Ogden, 2017). If these trends continue, over half of American adults are projected to be obese by 2030 (Finkelstein et al., 2012). Moreover, although obesity impacts all demographic groups, it is higher among black (46.8%) and Hispanic (47.0%) individuals, relative to their white (37.9%) and Asian (12.7%) counterparts. Similarly, prevalence varies by age and household income, with the highest rates among the middle-aged as well as among those with household income less than 350% of the federal poverty line (Hales et al., 2017).

Rising levels of overweight and obesity have become a national priority due to the considerable health and financial consequences associated with the epidemic (Rosenthal et al., 2017). The negative outcomes include increases in morbidity and

mortality, direct medical expenditures, and indirect economic costs. Every year, obesity is estimated to cause the loss of as much as 7.4 million quality-adjusted-life-years (Muennig et al., 2006) as well as cost the nation a total of $1.42 trillion due to health care expenditures and reduced economic productivity (Waters & DeVol, 2016). Importantly, these consequences are not only borne by those experiencing overweight and obesity, but also by a variety of third-party payers including private insurers, employers, government, and society at large. Additionally, as the prevalence of overweight and obesity has continued to climb in recent years and has shown no signs of stopping, the number and severity of deleterious consequences are expected to continue to grow.

Perhaps the most obvious impacts of overweight and obesity are those on physical health and mental wellbeing, since elevated BMI is positively associated with a variety of chronic diseases, physiological conditions and diminished longevity. For example, Must and McKeown (2012) found that, compared to normal-weight adults, obese adults have an approximately 64% higher risk of developing type 2 diabetes, a 54% higher risk of having high blood pressure, a 34% higher risk of arthritis, and 17% higher risk of asthma. Similarly, Simons et al. (2006) found that obesity is associated with an approximately 25% increase in the probability of mood and anxiety disorders as well as a 25% in the prevalence of substance abuse disorders. Moreover, being overweight or obese is associated with a higher mortality rate. Specifically, for every 5-unit increase in BMI above normal weight (BMI $\geq 25 kg/m^{2)}$, there is approximately a 31% increase in the risk of premature mortality (The Global BMI Mortality Collaboration, 2016). In fact, as many as 1 in 5 fatalities among American adults is

attributable to obesity-associated causes (Masters et al, 2013), making obesity the leading cause of preventable death in the United States (Cleveland Clinic, 2017).

The healthcare costs associated with treating these comorbidities has placed a substantial economic burden on the United States, due to increased laboratory tests, prescription drugs, medical procedures, and hospital stays. Although there is an overwhelming consensus among experts that overweight and obese individuals accrue higher health care costs than normal weight individuals, precise value estimates vary considerably with study design and payer perspective. For instance, research by Finkelstein et al. (2009) used the Medical Expenditure Panel Survey (MEPS) from 1998-2006 to study these costs. They estimated that total annual medical spending attributable to obesity was $147 billion in 2008, making up roughly 10% of all medical expenditures and equal to an incremental cost of $1,723 per obese individual. Cawley et al. (2015), on the other hand, used an instrumental variable approach and estimated annual medical spending attributable to obesity to be $315.8 billion in 2010, accounting for 27.5% of all healthcare spending and equal to an incremental cost of $3,508 per obese individual.

Moreover, research has shown that overweight and obese individuals do not bear the majority of the financial burden associated with the additional health care costs they create (Finkelstein et al, 2003; Wang et al., 2008; Gazmararian et al., 2015). Rather, direct medical costs are overwhelmingly paid for by private health insurance companies and the government via programs such as Medicaid and Medicare (Biener et al., 2017). These costs are then passed off to others in the private insurance pool via higher premium prices, or to society at large in the form of higher taxes (Efrat and Efrat, 2012). Using an instrumental variable approach, Cawley and Meyerhoefer (2012) determined

that in 2005, obesity created an incremental direct medical care cost of $2,471 per obese person, of which third-parties paid 88% (2,418). Similarly, Parks et al. (2012) analyzed public expenditures due to direct medical spending on obesity and concluded that, from this source alone, obesity caused a deadweight loss of nearly $217 billion in 2008.

The financial consequences of overweight and obesity go well beyond additional health care spending. In fact, indirect costs are often estimated to be greater than direct costs (Dee et al., 2014). Broadly speaking, the indirect costs can be broken down into two categories: those impacting just overweight and obese individuals and those impacting third-parties in society (Seidell, 1998). Overweight and obese individuals face indirect costs associated with lower wages, premature death, higher fuel expenditures, social discrimination, and higher life insurance premiums. Indirect consequences borne by third-parties, on the other hand, primarily center on lost economic productivity and higher non-medical insurance costs (Finkelstein et al., 2010). As was the case with direct medical costs, the economic evaluations of indirect costs vary considerably depending on study design and payer perspective.

Dor et al. (2010) conducted an analysis of indirect costs from the individual perspective and found that individuals with an elevated BMI bear significantly greater indirect costs due to lost wages, gasoline expenditures, and increased life insurance expenditures. They found the annual incremental cost associated with obesity to be $4,879 for an obese female and to be $2,646 for obese males. When accounting for the intangible, and somewhat controversial, value of lost life, Dor and his colleagues found the average additional annual cost of obesity to be $8,365 and $6,518 per obese female and male respectively. The gender gap in indirect costs is largely due to the fact that

while women, particularly white women, pay a significant wage penalty due to elevated BMI, men do not (Lempert, 2007).

The indirect costs of overweight and obesity borne by society are largely associated with a decrease in worker productivity, higher rates of disability, and premature mortality. Productivity costs can be broken down into presenteeism, absenteeism, and decreased working lifespan. Presenteeism, defined as the costs incurred due to obese workers' inability to successfully perform occupational tasks at full capacity, positively correlates with BMI and is estimated to amount to $30 billion annually (Finkelstein et al., 2010). Absenteeism, on the other hand, is categorized as lost productivity due to obese workers' additional number of sick days resulting from obesity-related health conditions. Obese employees take more days of sick leave then do their normal-weight counterparts, leading to nearly $43 billion in additional annual costs. In aggregate, Finkelstein et al. (2010) estimated the total annual cost attributable to obesity among full-time employees to be $72.1 billion. Similarly, obesity-related disability and premature mortality not only leads to temporary and permanent absences from the workforce, but also increases the financial payout by the government, employers, insurance companies, and pension plans (Trogdon et al., 2008). For instance, Arena et al. (2006) estimated that, compared to normal weight individuals, overweight workers and obese individuals accrued an average annual incremental cost due to short-term disability claims paid by employers of $55 and $349, respectively.

What has caused America's overweight and obesity epidemic? While there are many correlates with obesity, the basic principles of thermodynamics state that, in a closed system, energy can neither be created or destroyed (Rampone and Reynolds,

1988). It follows, therefore, that calories consumed must either be expended or stored by the body. As a result, if calorie input increases relative to energy output, the outcome is weight gain. In other words, the obesity epidemic we see today has been caused by a gradual increase in individuals' energy imbalance over time (Hill et al., 2012). In fact, Hall et al. (2011) estimated that the rise in American's BMI between 1978 and 2005 can be explained by an average energy imbalance of just 220 calories per day.

Identifying which side of the energy formula has changed most, and by how much, however, is made difficult by the fact that there is a lack of complete and accurate historical data regarding energy consumption and expenditure changes. For instance, in the 1960s, about half of private-sector jobs in the United States required at least moderate intensity physical activity; today this figure stands at less than 20%. At the same time, the average number of hours spent engaged in physical activity for leisure has increased, leaving the net change in energy expenditure ambiguous (Church et al., 2011). Experts agree, however, that changes in diet can have a much larger effect on weight than changes in physical activity (Pontzer et al., 2016). Additionally, although precise estimates vary, nearly all researchers have concluded that average American calorie consumption has increased over time (Rosenheck, 2008). As a result, the widening energy gap is thought to have been largely driven by over-consumption rather than under-expenditure (Philipson and Posner, 1999).

In light of the range and severity of negative consequences associated with elevated BMI, one might wonder why a rational individual would permit the persistence of an energy imbalance. Although individuals gain utility from a healthy weight, they cannot choose weight directly. Rather, weight is indirectly chosen via

diet and exercise decisions. These tradeoffs regarding how best to allocate ones time and money to influence BMI are made in accordance with one's preferences and are constrained by income, time, and biology (Cawley & Ruhm, 2011). It follows, therefore, that in order to maximize utility, ones allocation of time and budget must meet the last-dollar and last-hour rules, meaning that the last dollar spent on all goods and the last hour spent engaged in all activities must provide the same marginal benefit to the individual. When these conditions are met, it is impossible for a consumer to be better off simply by reshuffling his use of resources. It follows, therefore, that if energy-dense foods can be consumed for less today, in terms of both price and opportunity cost, than in the past as well as relative to less energy-dense alternatives, then overweight and obesity may simply be the outcome of individuals' rational decision making.

In the years since the obesity epidemic began, there have been several important societal changes that have influenced Americans' tradeoffs, and subsequently their weight. For instance, over the past several decades, the real prices of energy-dense foods and sugar-sweetened beverages have declined, while the real prices of fresh fruit, vegetables, and low-fat dairy have climbed (Strum, 2009). This has resulted in a considerable price gap between low- and high-calorie foods. Monsivais and Drewnowski (2009) studied nearly 400 foods sold in grocery stores in Seattle in 2006, and found that the mean cost per 1,000 kcal varied from $1.76 for the most energy-dense foods to $18.16 for the least energy-dense foods. The laws of supply and demand dictate that when the price of one good falls relative to that of a

substitute, a consumer will maximize his utility by consuming more of the cheaper good and less of the expensive good.

Moreover, it is not just that energy-dense foods have become relatively less expensive; they are also often far less time intensive to acquire and prepare (Cutler et al. 2003). For example, while the number of fast food restaurants has more than doubled since the 1970s, supermarkets selling fresh foods have become increasingly inaccessible to many Americans (Chou et al., 2004; Ploeg, 2010). As a result, eating at a local fast food restaurant will likely be less expensive and time consuming than traveling outside of one's neighborhood to pick up fresh ingredients in order to prepare a meal at home. Additionally, some argue that as women have entered the workforce, the opportunity cost of their time has risen. As women have historically been responsible for shopping and meal preparation, their employment may make time spent engaged in such activities more expensive than in the past (Anderson et al., 2003).

Consequently, the health and financial costs associated with overweight and obesity do not *necessarily* indicate irrational decision making among American consumers. Thanks to technological innovations and economic transformations, caloric foods have become relatively cheaper and less time intensive to consume. As a result, it follows that a rational, utility maximizing individual may choose to engage in behaviors that promote obesity, simply because failing to do so is too expensive (Cutler et al., 2003). This line of reasoning largely reflects trends in American consumption. For instance, compared to 1970, American households currently spend approximately 25% less of their disposable income on food and about 50% less time

on food preparation, yet consume roughly 23% more calories per day (USDA, 2016; Cutler et al., 2003; Desilever, 2016). These tradeoffs allow Americans to spend more money on other goods and time engaged in alternative activities. In sum, despite the health and financial consequences associated with above-normal weight, it could be inferred that the current prevalence of overweight and obesity is simply the efficient result of a series of logical tradeoffs between competing goods in the pursuit of utility maximization.

Closer examination, however, reveals that the market is likely failing to operate efficiently on both the societal or individual levels due to the existence of market failures, which include negative externalities, imperfect information and irrational behavior. These market failures provide the government with economic-based, as well as welfare-based, justifications for intervention. As will be discussed, however, while there have been multiple efforts aimed at changing individuals' behaviors and regulating the industries associated with overweight and obesity, the government's actions designed to diminish these inefficiencies have been largely ineffective at best, and counterproductive at worst.

Market Failures and Government Interventions

As discussed, obese and overweight individuals do not bear the majority of the financial burden created by their personal consumption decisions. Rather, nearly 90% of the costs are externalized to third-party payers, creating moral hazard and a socially inefficient outcome. Governmental attempts to reduce this negative externality, however, have been largely unsuccessful and often met with considerable backlash.

For instance, in response to the significant costs associated with overweight and obesity, the U.S. Department of Health and Human Services (HHS) launched *Healthy People 2010* in 2000, which aimed to reduce adult obesity to 15% and childhood obesity to 5% by 2010 (Davis, 2000). The failure of this initiative, however is evidenced by the current prevalence of adult and childhood obesity which stands at 39.8% and 18.5% respectively (Hales, Carroll, Fryar, & Ogden, 2017). More recently, the 2010 Affordable Care Act took steps to address this market failure by allowing employers to charge obese workers up to 30% more for health insurance plans if they declined to participate in a qualified wellness program to promote weight loss. Few employers, however, take advantage of this provision and even fewer cover evidence-based obesity treatments in their health plans (Kyle et al., 2015). The law also contained incentives for Medicare and Medicaid enrollees to consult a medical professional regarding weight loss (CMS, 2011). These provisions, however, were met with stark opposition and emboldened advocates to take a stand against "weight discrimination" (Kyle et al., 2015). Consequently, since the government has failed to reduce the prevalence of overweight and obesity, as well as to get individuals to internalize the associated medical expenditures, this market failure remains uncorrected.

Even when excluding costs borne by third-parties, on a personal level, it does not appear as if individuals uniformly act in their own best interest. A central assumption of efficient free markets is that individuals are capable of making choices to maximize their life-long utility. For this assumption to hold, however, individuals must be able to act rationally and have complete information. Overweight and

obesity, however, are often the result of choices made when individuals were children and, therefore, unable to act rationally (Steelandt et al., 2013). Specifically, roughly half of overweight adults were overweight before the age of 18, and adolescent obesity is positively associated with an increased risk of multiple comorbidities in adulthood, regardless of adult weight classification (Must, 1992). Additionally, even when overweight and obesity emerge later in life, there is substantial evidence indicating that consumers have incomplete information and hold misconceptions regarding diet and exercise. For example, Willbond et al. (2010) asked study participants to walk on a treadmill for 28 minutes and then to estimate the number of calories they had expended. Although in actuality, the number was about 200 calories, participants' responses ranged from 120-4,000 calories, with an average answer of 825 calories. The study also asked participants to consume 200 calories at a buffet. Actual average consumption, however, was 556 calories. In sum, these findings indicate that consumers often hold misconceptions about diet and exercise, which may cause an unintended energy imbalance and, subsequently, a failure to maximize utility.

In response to such micsonceptions, the federal government has published nutrition and exercise related standards and guidelines. Some argue, however, that these measures have been ineffective and even detrimental at times. For instance, evaluation of the National School Lunch Program, which is intended to promote healthy eating among lower-income public school students, found that participation in the program was positively associated an increase in BMI (Schanzenbach, 2009). Similarly, efforts to educate adult consumers by publishing dietary and physical

activity guidelines, as well as by mandating calorie and nutrition information on food packaging, has shown minimal success as diet quality has continued to decline (Kiszko et al, 2014; Wang et al., 2014). Additionally, some cities, such as New York City, have passed legislation mandating the inclusion of calorie information at chain restaurants in an effort to better inform consumers. Evaluations of such efforts, however, have been inconclusive as experts have not reached a consensus (Elbel, et al., 2009; Block & Roberto, 2014).

Weight Loss Attempts Among American Adults

The argument that individuals do not rationally "choose" obesity is further supported by the fact that roughly 106.2 million American adults report having attempted to lose weight within the past year (Snook et al., 2017). Importantly, reported weight loss attempts vary by weight classification. Weight loss was less common among normal weight men (6%) and women (24%) than among overweight men (28%) and women (49%) or obese men (50%) and women (58%) (Kruger, 2004). Moreover, 20% of obese Americans report having made 20 or more weight loss attempts in their lifetime (NORC, 2016). The United States government recommends a safe rate of weight loss of one to two pounds per week by establishing an energy deficit between 500 to 1,000 kcal per day through decreased consumption and increased physical activity (NIH, 1998). Weight loss in this manner, however, requires patience and considerable long-term lifestyle changes. As a result, the vast majority of individuals attempting this weight loss method either fail to lose weight altogether or regain all weight lost within five years (Kruger et al., 2004; MacLean et

al., 2011). Frustrated with the tedious rate of weight loss and high propensity of failure, many Americans look to alternatives such as bariatric surgery, prescription drugs, and over-the-counter weight loss products.

These efforts are not just time and energy intensive. They can also be expensive, supporting a large and growing weight loss industry with sales above $66 billion in 2016 (Marketdata LLC, 2017). In fact, the United States has the largest weight management market in the world (Technavio, 2018). In 2016 alone, there were an estimated 216,000 bariatric surgeries performed, $615 million in prescription weight loss drug sales, and $5.4 billion in over-the-counter weight loss product sales (NORC, 2016; Marketdata LLC, 2017; Euromonitor International, 2017). The demand for weight loss products and services is a derived demand, rooted in the desire for weight loss (Cawley, 2013). Since there is more than one method of weight loss, factor substitution is possible between time and financial resources spent on diet, exercise, and alternative weight loss methods.

The Market for Weight Loss Dietary Supplements

One weight loss method that has garnered considerable attention in recent decades has been the use of over-the-counter (OTC) dietary supplements. These products, which promise fast, effective, safe, and effortless results are popular among American consumers. Annually, Americans spend approximately $2.1 billion on weight loss dietary supplements in pill form alone (National Institutes of Health Office of Dietary Supplements, 2017). According to a 2016 national survey conducted by the Associated Press-National Opinion Research Center for Public Affairs

research, 27% of all American adults and 39% of obese American adults have used dietary supplements for weight loss at some point in their lives (NORC, 2016).

Some demographic groups are more likely to consume weight loss dietary supplements than others. According to a random, nationally-representative telephone survey of American adults, use of dietary supplements for weight loss is highest among African Americans and Hispanics as well as among those having fewer years of formal education, living in lower-income households, and without health insurance. Moreover, the study showed that weight loss dietary supplement users were largely those most desperate to lose weight. On average, users of weight loss dietary supplements were more likely to assign themselves a lower health rating, describe themselves as overweight, and report the desire to lose 25 pounds or more. Additionally, weight loss dietary supplement use was most common among those who reported a greater number of lifetime weight loss attempts as well as having attempted the greatest number of weight loss methods (Pillitteri et al., 2008).

Despite their widespread use and popularity among those most yearning to lose weight, little is known regarding the efficacy of weight loss supplements; and some have been associated with considerable consumer harm (Heinrich, 2002). While some products have been found to produce modest effects in the short term, there are often important limitations due to study design. Specifically, results are often based on studies with a number of confounding factors such as small sample sizes, short observation periods, and the fact that products are often studied in conjunction with other weight loss methods (Manore, 2012). Allison et al. (2001) reviewed the data on 18 common weight loss supplements and found that none have been adequately

demonstrated to be safe and effective in at least two independent, peer-reviewed, randomized, doubled-blind placebo-controlled trials. In practice, many weight loss supplements have been associated with reports of negative health outcomes. In fact, a recent study estimated that, between 2004 and 2013, there were an average of nearly 6,000 emergency department visits annually due to weight loss dietary supplement use (Geller et al., 2015).

This market segment has garnered considerable public interest, not simply due to its widespread use, but also as a result of the market failures it presents, particularly in the form of information asymmetry. Weight loss products are often thought of as "experience goods", meaning that quality cannot be determined prior to purchase, or even "credence goods", meaning that quality cannot be determined even following consumption. Specifically, in the very least, consumers cannot know if a product will work for them until after personal use. Weight loss, however, depends on a variety of factors such as the combination of methods chosen, the duration and intensity effort, diet, physical activity, genetics, intestinal microbiome populations, willpower, and current body composition. As a result, accurate assessment of a single component, such as dietary supplement use, may be difficult to discern. Moreover, researchers have shown that while individuals are likely to attribute initial success to their chosen method, most blame themselves for their ultimate failure to lose weight (Polivy and Herman, 2000)

Since individuals cannot identify the quality of weight loss dietary supplements prior to purchase, they must rely on external cues such as products' labeling and advertising to make informed decisions and maximize utility. In the

presence of deception, however, such marketing practices lose their central role in the promotion of an efficient allocation of resources in a free-market economy, resulting in consumer harm (Azcuenaga, 1997). Particularly, if deceptive practices are cooperative, meaning that they increase the probability of future product use among current non-users, then those induced by deception may suffer financial loss and experience worse outcomes than if they had not been deceived and chosen an alternative. If the function is competitive, meaning that deception causes existing users to switch brands, the result could be a "lemons market" in which firms with deceptive marketing practices capture a higher proportion of market share. In such a scenario, truthful firms would either be forced to deceive or exit the market.

Although its function as either cooperative, competitive or some combination of both is unclear, deceptive marketing practices are pervasive in the weight loss dietary supplement industry. In terms of product labeling, deceptive practices have been the focus of both academic research and government action. As will be detailed later in this report, under current law, dietary supplements are not required to undergo any pre-market testing, but are required to list all ingredients on their product labels (DSHEA, 1994). Research has found, however, that in many cases, substances listed on weight loss dietary supplements' labels have been associated with negative health outcomes and, even more alarmingly, that the ingredients listed on packages often do not align with products' actual contents.

Nazeri et al. (2009), for instance, analyzed the ingredients listed on 12 common weight loss dietary supplements and found that eight of the twelve products reported at least one ingredient that was associated with two or more instances of life-

threatening cardiac complications or death. Moreover, they found that none of the eight products carried warnings regarding possible side effects. Navarro (2017), on the other hand, went beyond the ingredients listed and conducted a content analysis of several weight loss dietary supplements. Navarro found that just 28% of the products contents matched the ingredients listed on their labels. Importantly, unlisted ingredients have not been found to be benign additives; between 2013 and 2017, the FDA issued 138 public notifications regarding weight loss dietary supplements identified as containing one or more hidden hazardous active ingredients (FDA, 2017). On its website, the FDA warns that the risks associated with using weight loss dietary supplements extend well beyond the products for which it has issued public warnings stating, "*Remember, FDA cannot test all products on the market that contain potentially harmful hidden ingredients. Enforcement actions and consumer advisories for tainted products only cover a small fraction of the tainted over-the-counter products on the marke*t" (FDA, 2017). As a result of the incomplete information regarding the contents of weight loss dietary supplements, consumers may unknowingly put their health at risk.

In regards to advertising, deceptive and misleading practices have been identified as widespread in the weight loss industry. Specifically, advertisers' bold claims regarding fast, dramatic, and effortless weight loss are often scientifically infeasible and unsubstantiated. In fact, in a 2011 consumer survey conducted by the federal government, weight loss advertising fraud was found to be the most prevalent category of fraud measured. The survey estimated that 2.1% of all American consumers (5.1 million U.S. Adults) had purchased a fraudulently advertised weight

loss product within the past year (Anderson, 2013). Moreover, analysis of the particular types of weight loss products advertised has revealed that the prevalence of false or misleading claims is particularly high among dietary supplement weight loss products (FTC, 2005). In sum, the deceptive labeling and marketing practices result in asymmetric information and, therefore, may lead to financial loss as well as the overconsumption of such products and the under consumption of more effective, safer, alternatives. Evidence supporting this concern can also be found in comparable over-the-counter product markets. In the vitamin industry, for instance, products have been found to include similar unsubstantiated structure-function claims in marketing, and advertisements for vitamins have been found to promote consumers' purchasing of such products (Avery et al., 2017; Eisenberg et al., 2017).

As a result of the market failure outlined above, the basic principles of economic theory justify government intervention. Additionally, the Supreme Court's interpretation of the First Amendment as having limitations on deceptive commercial speech promotes the legality of government interference in the industry. As was the case with the obesity epidemic generally, however, the current regulatory framework enacted by the government fails to adequately correct market failure, and at times, serves to exacerbate its severity.

FDA's Authority Under the Current Legal Landscape

Regulation of dietary supplements in the United States began in the early 1900s with the establishment of the Food and Drug Administration (FDA), a federal agency charged with protecting consumers by creating a national framework for food and drug

regulation (Swann, 2017). Specifically, the 1906 Pure Food and Drugs Act tasked the FDA with "*preventing the manufacture, sale, or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines, and liquors, and for the regulating traffic therein, and for other purposes*" (S. Res. 88, 1906). In the wake of this legislation, the FDA set different quality, purity, and strength standards for products categorized as foods and drugs and required that all active ingredients be listed on products' labels.

Over the next several decades, there was intense debate regarding under which regulatory umbrella dietary supplements ought to be placed. In response to growing health concerns, the FDA attempted to tighten its oversight throughout the 1960s and 1970s, but was met with stark opposition by the growing supplement industry. Beginning in 1976 with the Proxmire Amendment, the FDA's power to set maximum potency standards, prohibit certain ingredient combinations, or classify products exceeding particular strength thresholds was greatly diminished. In the early 1990s, the FDA pushed again for increased regulatory power, but was thwarted once more by the dietary supplement industry's lobbying might. The result was the controversial passage of the Dietary Supplement and Health Education Act (DSHEA) of 1994, which ended the decades-long battle regarding the proper regulatory placement of dietary supplements. This legislation, touted as promoting product access and consumer autonomy, created a new framework for dietary supplements. The legislation broadly defined dietary supplements as a subcategory of food, meaning products other than tobacco "intended to supplement the diet" such as vitamins, herbs, botanicals, and amino acids (DSHEA, 1994). Since 1994, there have been several attempts to enhance the government's

regulatory authority over dietary supplements. These efforts have been thwarted, however, in large part due to the industry's continuous lobbying efforts, which totaled nearly $6.8 billion in 2017 (Open Secrets, 2018).

Classification of dietary supplements under DSHEA greatly weakened the ability of the FDA to regulate the market. Importantly, the legislation shifted the responsibility to ensure the safety and efficacy of products prior to sale from the government to manufacturers. Although the law permits dietary supplements to make "structure-function claims," defined as "statements that describe the effect a dietary supplement may have on the structure or function of the body," the law does not require the manufacturers to submit substantiation of product benefits to the FDA prior to marketing the product (FDA, 2002). Manufacturers making these claims are simply required to include the disclaimer that, "This product is not intended to diagnose, treat, cure, or prevent any disease" (DSHEA, 1994). In general, the FDA's primary function in regard to dietary supplements is reactionary, and begins only after the product enters the market place. The FDA has no power to remove ineffective dietary supplements from the market; it only has the authority to take action against products reported to be unsafe, relying on adverse event reports, consumer complaints, scientific literature, and product sampling to prompt a safety investigation (FDA, 2015). With thousands of products on the market, however, the FDA does not have the resources to evaluate every product or negative health outcome. Moreover, for those it does assess, the process of product investigation and subsequent market removal is slow. By the time a product or ingredient is taken off the shelves, thousands of consumers may have been placed at risk.

The FDA's inability to respond efficiently to ineffective and unsafe dietary supplements can be seen in the case of ephedra. Ephedra was an ingredient commonly used in dietary supplements intended for weight loss and energy enhancement during the 1990s. Although research has not shown ephedra to promote long-term weight loss or produce any athletic benefits, it has consistently been associated with considerable health risks including hypertension, cardiac dysrhythmias, myocardial infarction, seizure, stroke, and sudden death (Shekelle et al., 2003; Zell-Kanter et al., 2015). Although the FDA first issued a bulletin noting the substance's dangers in 2004 and proposed limiting the sale of products containing ephedrine alkaloids as early as 1997, it was not until 2004, following reports of over 18,000 ephedrine-related adverse health events and nearly 150 associated fatalities that the FDA finally instituted a ban on dietary supplements containing the compound (Zell-Kanter et al., 2015). Once instituted, the ban was largely successful, resulting in an over 98% reduction in ephedrine poisoning reports (Zell-Kanter et al., 2015). Following the ban, safety concerns regarding dietary supplements, however, were persisted. For example, a study using nationally representative surveillance data from 63 ERs from 2004 to 2013 indicated that there were an average of approximately 23,000 emergency room visits per year due to dietary supplements sold in the United States, a quarter of which were the result of dietary supplements intended for weight loss (Greller et al, 2016).

FTC's Oversight of Weight Loss Product Advertising

The deregulation of dietary supplements following the passage of DSHEA led to substantial industry growth (Gilhooley, 2001). Before the law went into effect in 1994,

there were approximately 4,000 dietary supplements on the market. In 2014, just two decades later, there were more than 90,000 products (Starr, 2015). At the same time, consumer use expanded substantially. A survey commissioned by the Council of Responsible Nutrition and conducted by Ipos Public affairs in 2017 indicated that 76% of American adults use dietary supplements, up from just 40% prior to the passage of DSHEA (CRN, 2017; Gahche et al., 2011). Weight loss dietary supplements saw a particularly large growth in sales, with revenues increasing 10-20% annually in the years following DSHEA implementation (Heinrich, 2002).

This considerable industry success was catalyzed advertising practices across media platforms. In fact, spending on dietary supplement advertising rose steadily after DSHEA, climbing to $904 million in 2008 (TNS Media Intelligence, 2009). In line with trends across other advertising sectors following the economic downturn, total dietary supplement advertising spend was $838 million in 2010. Unlike other business sectors, which have moved away from print marketing towards online platforms, print magazine advertisements comprised the largest share of marketing in 2010 (46.6%), closely followed by TV advertisements (43.7%). The internet, newspapers, radio, and outdoor platforms trailed far behind at just $48.4 million, $20.1 million, $10.8 million, and $2.4 million respectively (TNS Media Intelligence, 2011). Moreover, several weight loss products were among those with the highest levels of advertising expenditure, including Hydroxycut, which spent $11.3 million on advertising in 2010 (DeLorme et al., 2012).

Although oversight of claims made on product labels at the point of sale falls under the FDA's jurisdiction, the text of DSHEA does not reference advertising. As a result, unlike prescription drugs, the FDA does not have authority over dietary

supplement advertising claims. By default, therefore, this responsibility falls to the Federal Trade Commission (FTC). The FTC was created in 1914 as the nation's consumer protection agency, and its authority to regulate advertising primarily originates from Section 5 of the Federal Trade Commission Act, which prohibits "unfair or deceptive acts or practices in or affecting commerce" as well as Section 12, which "prohibits the false advertisement of food, drugs, devices, services or cosmetics in or affecting commerce" (Erst, 2009). Specifically, the FTC requires that advertising must be truthful and not misleading and that advertisers must possess adequate substantiation for all claims prior to publication. The FTC defines a deceptive advertisement as one "that contains a misrepresentation or omission that is likely to mislead consumers acting reasonably under the circumstances to their detriment" (Fair, 2008, p.1). To fulfill its goal of protecting consumers from fraud and deception in the marketplace, the FTC has the authority to initiate investigations, file complaints, issue cease-and-desist orders, send warning letters, disseminate consumer and commercial educational materials, issue reports, and publish policy guidance.

In many ways, the reclassification of dietary supplements under DSHEA did not impact the manner in which the FTC governs such products. Rather, it necessitated clarification of the way in which existing rules applied to the industry. Following the passage of the DSHEA, for instance, the FTC responded to inquiries regarding its regulation of dietary supplement advertising by saying, "The answer to these questions is that advertising for <u>any</u> product- including dietary supplements- must be truthful, not misleading and substantiated" (FTC, 2001, p. 1). In fact, prior to the 1990s, the FTC had

already filed 73 deceptive advertising complaints against parties involved in the marketing of over-the-counter weight loss product (Cleland et al., 2002).

The FTC's history of pursuing deceptive advertising cases against over-the-counter weight loss products making misleading claims began in 1927 when the Commission filed suit against McGowan Laboratories and Womanhood Publishing Corporation. McGowan Laboratories advertised a product called McGowan's Reducine in Womanhood Publishing Corporation's magazine *True Romances*. The advertisements claimed that with the product, "excess fat is literally dissolved away" (Cleland et al., 2002, p. 25-26). In this case, the FTC held that both McGowan Laboratories, Inc. and Womanhood Publishing Corporation committed "unfair methods of competition in interstate commerce and constitute a violation of Section 5 of an Act of Congress" (FTC, 1930, p. 130). The FTC argued that both the manufacturer and the publisher knew "that the product in question was of no value for the purposes for which thus advertised and sold; with the capacity and tendency to induce those numerous persons seeking some safe and dependable means of removing excess fat or flesh into believing the aforesaid representations relative to said compound and to deceive those who might otherwise seek and obtain the services, products, means and methods of competitors offering the public professional advice, information, instructions, etc., for ridding the body of excess flesh, without any such false or misleading and fraudulent assertions and representations, into purchasing the aforesaid fraudulent product" (FTC, 1930, p.127). In other words, the FTC ruled that McGowan was liable for creating and Womanhood Publishing Corporation was liable for disseminating the deceptive advertisements, which caused harm to consumers. The FTC filed cease and desist orders against both parties.

On the other hand, in the 1990s, the FTC was forced to adapt its governance strategies to respond to mounting industry and political pressures involving dietary supplements and the weight loss industry. For instance, during the 1990s, the FTC filed 81 cases against parties responsible for deceptive weight loss product advertisements, which was more than the previous seven decades combined (Cleland et al., 2002). In 1990, the House of Representatives Committee on Small Business held three hearings on the diet industry which it described "as built on a foundation and false promises and false hopes" (Wyden, 1990, p.1). The FTC provided testimony at these hearings, and was accused by Committee members of "sleepwalking", providing "woefully inadequate" consumer protection, and "encouraging competition at the expense of its citizens' health and safety" (House of Representatives, 1990, p.4). In response, the FTC heightened its enforcement efforts against the industry, focusing on commercial weight-loss clinic and physician supervised diet programs in particular. These early 1990s efforts resulted in more than twenty consent orders that addressed the deceptive and unsubstantiated advertising practices of such products (FTC, 1998). In 1994, DSHEA caused a shift in the Commission's focus towards weight loss dietary supplements, for which advertising volume and associated consumer complaints were rapidly rising (Cleland et al., 2002)

In the late 1990s, the FTC formalized its efforts against the over-the-counter weight loss industry. In 1997, the Commission launched its first "purge" against deceptive weight loss product advertisements through an initiative titled "Operation Waistline". "Operation Waistline" was a multifaceted initiative, which included seven enforcement cases, new consumer education materials, and more than 100 letters to media outlets. The complaints, filed against the advertisers of four product categories

("cellulose/ox bile; devices; low calorie diets/very low calorie diets (lcd/vlcd); and supplements"), resulted in a total of $787,500 in consumer redress or disgorgement to the U.S. Treasury (FTC, 1997). The FTC alleged that the various advertising statements and the testimonials from consumers lacked "adequate substantiation for their claims that the various products would, among other things, cause significant and long-term weight loss; reduce body fat; control appetite; increase metabolism; reduce serum cholesterol; and regulate blood sugar levels" (FTC, 1997). In its press release regarding the launch of Operation Waistline, the FTC promoted its free consumer educational materials including a brochure titled "The Skinny on Dieting", which was designed to help consumers identify fraudulent advertising as well as educate consumers on healthy weight loss methods. The over 100 letters to media outlets were sent to those that published the challenged advertisements, calling on them to take an active role in screening advertisements for deception prior to publication (FTC, 1997).

Over the next several years, the FTC attempted to clarify its expectations for the rapidly expanding dietary supplement industry. In 1998 the FTC published *Dietary Supplements: An Advertising Guide for Industry* in order to "clarify how long-standing FTC policies and enforcement practices relate to diet supplement advertising" (FTC, 1998, P.1). Specifically, the FTC highlighted that "Under FTC law, an advertiser is equally responsible for the accuracy of claims suggested or implied by the ad" and that those involved in the creation of advertisements must consider the "net impression" conveyed by the advertisement, rather than simply the validity of individual phrases or elements. Additionally, the Commission emphasized that it "has taken action not just against supplement manufacturers, but also, in appropriate circumstances, against ad

agencies, distributors, retailers, catalog companies, infomercial producers and others involved in deceptive promotions. Therefore, all parties who participate directly or indirectly in the marketing of dietary supplements have an obligation to make sure that claims are presented truthfully and to check the adequacy of the support behind those claims" (FTC, 1998, p.3). Consequently, the 1998 guidelines represented the FTC's ongoing commitment to ensuring truthful and non-misleading advertisements as well as its ability to apply broad liability for deceptive representations.

In 2002, the FTC released a pivotal over-the-counter weight loss industry report titled *Weight Loss Advertising: An Analysis of Current Trends*. In this report, the FTC compared a sample of print magazine advertisements that aired in 2001 to those that were published in 1992 as well as analyzed the content of advertisements that ran across a variety of media platforms in 2001. In the magazine advertisement historical comparison, the FTC found that the number of weight loss advertisements more than doubled, there was a shift from meal replacement to dietary supplement products, and the percent of advertisements that made at least one representation that was "almost certainly false" increased from 0% in 1992 to 31% in 2001. Moreover, in its assessment of advertisements published in 2001 across a variety of media types, the FTC concluded that 50% of advertisements contained at least one representation that was very likely to be false or lacked substantiation (FTC, 2002). The FTC expressed alarm that "despite unprecedented levels of FTC law enforcement and substantial consumer education efforts, false and deceptive weight loss advertising was widespread" (FTC, 2003, p.i). Again, the FTC called on media outlets to take responsibility and to screen advertisements for deceptive content prior to publication writing, "government agencies

and self-regulatory groups can step in once the ad has been disseminated to an unwary public, but only the media can stop false ads before they are disseminated" (Cleland et al., 2002, p. 30). Importantly, however, unlike in the 1927 case against McGowan Laboratories and Womanhood Publishing Corporation, the FTC discussed media outlets as a vital component of the solution rather than a liable party for deception.

In response to the troublesome trends exposed in the 2002 report, the FTC assembled a workshop in order to formulate new approaches to halting deceptive weight loss advertising. In particular, the workshop- titled *Deception in Weight-Loss Advertising Workshop: Seizing Opportunities and Building Partnerships to Stop Weight-Loss Fraud*- focused on the role of the media and the ways in which the Commission could promote screening prior to publication. Specifically, the members of the workshop considered whether the FTC should compile a concise set of scientifically improbable claims commonly found in weight loss product advertisements and if such a list would assist media outlets with screening. A 72-page report on the workshop was published in 2003.

The workshop focused specifically on nonprescription drugs, dietary supplements, and other over-the-counter weight loss products and was comprised of three panels: science, industry, and media. The science panel consisted of ten experts in the fields of medicine, nutrition and the treatment of overweight and obesity. This panel evaluated eight claims found in nonprescription weight loss product advertisements in terms of their scientific feasibility, biological plausibility and possible mechanisms of actions. Although all eight claims were determined to be scientifically impossible at the time of the report, only seven were deemed common enough to merit inclusion in the list to be disseminated to media outlets.

The industry panel consisted of industry representatives such as the National Advertising Division of the Council of Better Business Bureaus (NAD), firms that sell weight loss products and trade associations that represent the dietary supplement industry. This panel focused on the damage to the industry caused by deceptive marketing practices, ways in which self-regulation could be strengthened, improvements to self-regulatory guidelines, and the possibility of future partnerships with the FTC. The industry panel concluded that deceptive advertising negatively impacts reputable companies and that they should do more- alone and in conjunction with other parties- to contribute to more effective advertisement regulation (FTC, 2003).

Lastly, the media panel consisted of major media trade groups, publishers, and several academics in the fields of marketing, media law, and journalism ethics. This panel focused on the role of the media. The panel ultimately identified two roles for media: (1) to educate consumers on weight loss fraud and weight loss generally as well as (2) to limit the dissemination of deceptive weight loss advertising (FTC, 2003). Despite recognizing the potential benefits of a list of false statements to guide screening efforts, the media panel's members expressed concern about the resources needed for effective screening as well as its ability to ascertain, even with a guide, whether one of the scientifically infeasible weight loss claims is being made. Specifically, due to the volume of advertisements received and short publishing deadlines faced by media outlets, they asserted that a list of prohibited claims would impose undue burdens. Additionally, due to the fact that advertisers are unlikely to make one of the forbidden statements verbatim, members of the panel voiced concerns regarding infringement of advertisers' First Amendment rights (FTC, 2003).

Despite these concerns, the FTC decided that the creation of a specific list of impossible weight loss claims to be used by media outlets during advertisement screening was constitutionally permissible since the guidelines would be voluntary. Consequently, the FTC concluded that, alongside enforcement actions and consumer education efforts, voluntary media screening guidelines could play a vital role in halting deceptive advertisements in the industry. In its 2003 workshop report the FTC stated that, "With merely a good faith effort to incorporate voluntarily the weight-loss advertising guidance as part of their clearance standards, the media outlets, as a whole, could reduce significantly the amount of false and deceptive weight-loss advertising that is disseminated to the public, and thereby reduce the incidence of weight-loss fraud" (FTC, 2003, p.34). In sum, although the FTC had requested the active participation of media outlets in screening advertisements several times in the preceding years, the 2002 workshop and subsequent 2003 report marked the first time it moved to highlight specific claims and create guidelines geared at media outlets.

On the same day the workshop report was released, the FTC executed the proposal by publishing a list of "too-good-to-be-true" weight loss claims in its media reference guide titled *Red Flag: Bogus Weight Loss Claims.* In essence, the media reference guide was a summary of the 2003 workshop report, in which the FTC outlined the seven claims deemed "scientifically infeasible," provided brief justifications for their categorization as such, and enumerated a handful of possible claim variations advertisers may use (Beales, 2003). The guidelines also emphasized that the seven claims, referred to as Red Flag claims, only covered certain over-the-counter weight loss products including nonprescription drugs, dietary supplements, creams, wraps, devices, and patches. The

Commission specified that the guidelines were not meant to cover meal replacement products, low-calorie diets, or exercise programs (Beales, 2003). The FTC, however, did not specify precise definitions of product categories or provide instruction on how to spot deception in weight loss products not covered by the Red Flags.

In conjunction with the Red Flag guidelines, the FTC launched its second major and multi-component enforcement initiative, *Operation Big Fat Lie*. Launched in November 2004, the FTC described *Operation Big Fat Lie* as "a nationwide law enforcement sweep" (FTC, 2004). The initiative centered on complaints filed against six companies accused of making one or more Red Flag statements and failing to have adequate substantiation for their claims (FTC, 2004). The challenged advertisements covered a variety of weight loss product types including multiple topical gels and creams, weight loss kits, diet teas, transdermal patches, body wraps, and dietary supplements in pill, capsule, tablet and powder forms. Enforcement cases listed both the advertising companies and individual executives as plaintiffs, but no media outlets were held liable.

As part of *Operation Big Fat Lie,* the FTC took action against Bronson Partners, LLC., listing its subsidiaries (New England Diet Center & Bronson Day Spa), two of its executives (Martin Howard & Sandra Howard), and an affiliated entity (H&H Marketing) as defendants. The FTC alleged that advertisements for two of the defendants' products- Chinese Diet Tea and Bio-Sim Patch- that aired in 2003 and 2004 were in violation of Sections 5 and 12 of the Federal Trade Commission Act (FTC v. Bronson Partners LLC, 2004). Specifically, nationally circulated advertisements for Chinese Diet Tea claimed that drinking the product after each meal "eliminates an amazing 91% of absorbed sugars"; "prevents 83% of fat absorption"; and "doubles your metabolic rate to burn

calories fast" all with "no change in diet or physical activity" (FTC v. Bronson Partners LLC, 2004, p,4). The advertisements featured testimonials boasting weight loss of as much as 64 pounds in 10 weeks as well as incorrectly claimed that the product had been clinically proven. Advertisements for the Bio-Slim Patch, on the other hand, promised "fast, easy, LASTING weight loss" of up to 60 pounds simply by adhering the patch to the skin (FTC v. Bronson Partners, LLC and Martin Howard, 2004, p.6). Across advertisements for both products, the FTC accused the defendants of making all seven Red Flag claims. Following years of appeals, in 2011, the FTC entered a permanent injunction against the Martin Howard, Bronson, and H&H and ordered the payment of $1,942,325 in monetary equitable relief plus statutory interest. Sandra Howard was not held liable since the court found that she had legitimate claim to the amounts she had received from the defendants ($88,500). Although this case is promoted as a success by the FTC, it is important to note that the final ruling against the defendants took place seven years after the first advertisements were published.

Also as part of the *Operation Big Fat Lie* initiative, the FTC published consumer education materials and sent additional letters to media outlets that ran the challenged advertisements (FTC, 2004). New consumer education material included a guide titled *Weighing the Evidence of Diet Ads,* which instructed consumers on how to protect themselves from questionable products, as well as the creation of a "teaser" website aimed at reaching consumers searching the Internet for weight loss products. Specifically, the teaser website was designed to mimic real websites, but once a consumer attempted to purchase the advertised product, the webpage would reveal itself as a consumer education item published by the FTC. The letters to media outlets included a copy of the challenged

advertisement, a copy of the media guidelines *Red Flag: A Reference Guide for Media on Bogus Weight Loss Claim Detection,* and a description of each Red Flag claim in the challenged advertisement (FTC, 2004). In sum, by combining enforcement actions with efforts to promote media outlet screening and enhance consumer awareness, the FTC asserted that *Operation Big Fat Lie* strove to "keep this national obesity epidemic from getting worse… stop bogus ads and to secure redress for consumers" (FTC, 2004). The Red Flag guidelines, and the associated *Operation Big Fat Lie,* were the last major initiatives focused on the weight loss industry until 2014 and marked a decline in the frequency of deceptive advertising complaints filed by the Commission (FTC, 2014; FOIA Request, 2018).

The only relevant development occuring between the Red Flag initiative and the period selected for analysis (2010-2011) was the FTC's 2009 revision of its *Guides Concerning the Use of Endorsements and Testimonials in Advertising*, which were originally published in 1980 and applied to all advertisements, not just those for weight loss or dietary supplements. Pertinently, the 2009 revision included new provisions to protect consumers. Concerning disclosures of typicality, the Commission directed that, "In contrast to the 1980 version of the Guides – which allowed advertisers to describe unusual results in a testimonial as long as they included a disclaimer such as "results not typical" – the revised Guides no longer contain this safe harbor" (FTC, 2009). Rather, the 2009 version stipulated that, "If the advertiser does not have substantiation that the endorser's experience is representative of what consumers will generally achieve, the advertisement should clearly and conspicuously disclose the generally expected performance in the depicted circumstances" (FTC, 2009, p.5). Consequently, in the

period selected for analysis, ads were considered deceptive not only if they contained a Red Flag claim, but also if they contained an endorsement reporting unusual weight loss results without clearly disclosing the typical outcomes consumers could expect to achieve. Importantly, these guides governed standards for advertisers, and had not been used to promote media screening. Since outlets were not expected to review manufacturers' substantiation for claims, they did not have the necessary tools to determine when a typicality disclosure was needed or accurate.

CHAPTER THREE: STUDY OBJECTIVES

In the past, both the FTC and independent researchers have evaluated the impact of the 2003 Red Flag initiative on marketing practices in the weight loss product industry and reported favorable outcomes (FTC, 2005; Avery et al., 2013). These studies, however, assessed only short-term effects and presented several limitations. This thesis, which analyzes the entire universe of English-language TV advertisement airings as well as all nationally circulated print magazine advertisement airings published in 2010 and 2011, serves as the first appraisal of the FTC's Red Flag guidelines and its associated enforcement and consumer education efforts (together referred to as the "Red Flag initiative") as a sustainable solution to deceptive weight loss product advertising. To accomplish this objective, build on the current body of literature, and offer potential policy implications, this thesis explores the following research questions:

Q1. Compared to previous estimates, did the frequency of ads that contained one or more Red Flag claims decline during the period of study?

Q2. By analyzing the content of advertisements published by individual media outlets, is there evidence to support the notion that the FTC's Red Flag screening guidelines were implemented?

Q3. Using additional literature published by the FTC to construct alternative definitions of deception, is there evidence of offsetting marketing behaviors during the period selected for analysis?

Q4. Does the incidence of advertisements with Red Flag claims serve as an accurate proxy for the actual prevalence of misleading advertisements published during 2010 and 2011?

Q5. Was deceptive content uniformly distributed among brands and media outlets, or concentrated among a handful of parties?

Q6. What if any differences exist across media types in terms of the creative content disseminated during the period selected for analysis?

For question one, I hypothesize that the prevalence of advertisements with Red Flag claims during the period of study will be lower than before but higher than immediately following the initiative's launch, as estimated by the FTC (2005) and Avery et al. (2013). I expect that this will be the case since the Red Flag claims were developed to capture the most common "scientifically infeasible" statements used in weight loss advertisements at the time. In the years after the initiative's creation, the Red Flag claims served as the backbone of the FTC's media screening promotion and enforcement efforts. It follows, therefore, that this period of hyper vigilance reflects the era in which media outlets were most likely to screen for and advertisers were least likely to include the seven highly publicized forbidden claims. In the second half of the 2000s, however, attention given to the claims faded, and the FTC's focus on the weight loss product industry waned, which may have led to a slight resurgence of ads containing Red Flag claims. Still, given that the FTC singled out the seven statements less than a decade prior to the period selected for analysis, it is unlikely that their prevalence returned to pre-initiative levels.

To address question two, I analyze the proportion of advertisements containing Red Flag claims published by media outlets that disseminated several weight loss product advertisements during 2010 and 2011. Since pressure on media outlets to screen for Red Flag claims declined in the late 2000s, and because advertisers may be unlikely to include

the seven statements verbatim, I suspect that few outlets demonstrated perfect implementation of the guidelines.

For question three, since the FTC's focus has namely been on Red Flag claims, I hypothesize that advertisers substituted towards alternative misleading creative content during the period selected for analysis. For instance, since there is a lack of empirical evidence supporting the efficacy of over-the-counter weight loss products, advertisers' portrayals of dramatic results are likely misleading even in the absence of a Red Flag claim. Consequently, in terms of question four, I expect that Red Flag claims do not serve as an accurate proxy for the prevalence of deceptive ads in the weight loss product market.

Concerning questions five and six, I hypothesize that there will be a lower prevalence of ads with Red Flag claim in the print than the TV dataset. Compared to TV networks, print magazines face a lower volume of advertisements and slower-paced publication deadlines (FTC, 2002). Screening advertisements prior to publication, therefore, is more feasible for print media outlets than TV media outlets. Additionally, there are differences in how individuals perceive advertisements published via various media platforms. For instance, consumer satisfaction surveys reveal that more consumers (82%) view print advertisements as trustworthy than any other advertising channel (Burstein, 2017). Moreover, since unlike TV networks, consumers purchase individual print magazines, and because individuals pay more attention to ads published in print magazines than in any other platform, magazine publications may be particularly aware of how their marketing content is perceived by customers (Consterdine, 2009).

CHAPTER FOUR: LITERATURE REVIEW

Federal Trade Commission Evaluations

The FTC's staff has twice attempted to evaluate its efforts by measuring the prevalence of deception in weight loss product advertisements. Its first report, titled *Weight-Loss Advertising: An Analysis of Current Trends,* was published 2002 and was designed to characterize the impact of *Operation Waistline* as well as other initiatives executed in the mid-to-late 1990s. The second report, titled *2004 Weight-Loss Advertising Survey*, was released in 2005 and focused primarily on measuring the success of the Red Flag initiative. As will be discussed following a description of each report, the main limitations presented by these studies include the use of small, non-random sample sizes, limited periods of study, the absence of interrater reliability estimates, and the lack of consistent definitions over time.

Weight-Loss Advertising: An Analysis of Current Trends (2002)

As mentioned, the FTC's first report was published in 2002, following the launch of *Operation Waistline* as well as a decade of increased enforcement actions, new industry guidelines, and additional consumer education materials. This report had two central components. The first objective was to estimate the present level of deception by analyzing advertisements published on a variety of media platforms. Specifically, the FTC collected a non-random sample of 298 over-the-counter weight loss advertisements published between February and May of 2001 on broadcast television (7), infomercials (5), radio (13), newspapers (85), magazines (68), tabloids (19), direct mail (21), commercial email (41), and Internet websites (44). The product types advertised included

dietary supplements (157), meal replacements (33), hypnosis treatments (27), programs (21), foods (15), transdermal patches (11), wraps (10), and other weight loss products (24). The second objective was to examine trends over time by comparing print magazine advertisements published before (1992) and after (2001) the Commission's major efforts. To execute this goal, the FTC collected weight loss product advertisements that aired in the February - May 1992 and 2001 issues of eight national magazines (*Family Circle*, *Cosmopolitan, Women's Day, Glamour*, *McCall's*, *Ladies Home Journal, Self*, and *Redbook*); the 1992 and 2001 samples included 8 and 25 unique advertisements respectively.

At the time of this analysis, it is important to note that the FTC had not yet formally established a list of deceptive weight loss claims. In order to estimate the prevalence of deceptive representations, therefore, it coded for the presence of claims deemed "so contrary to existing scientific evidence, or so clearly unsupported by the available evidence that there is little doubt that they are false or deceptive" as well as for several marketing techniques "which should raise red flags about the veracity of the claims" (Cleland et al., 2002, p. ix). The claims and techniques were jointly defined by the FTC, the Bureau of Consumer Protection, and the Partnership for Healthy Weight Management- a coalition of representatives from academia, medicine, government, and commercial enterprises. The following characteristics were coded for by FTC staff and discussed in the 2002 report:

1. Consumer testimonials
2. Before-and-after photos
3. Rapid weight loss claims
4. Lose weight without diet or exercise
5. Long-term or permanent weight loss
6. No more failure claims

7. Clinically or scientifically proven claims
8. Endorsements by medical professionals
9. Money-back guarantees
10. Safe/ all natural claims

In its results, the FTC presented the percent of advertisements containing each characteristic and expressed alarm regarding its findings. In terms of the first objective, the FTC concluded that nearly 40% of the 2001 advertisements included at least one representation that "almost certainly is false" and 55% of advertisements "made at least one representation that is very likely to be false or, at the very least, lacks adequate substantiation" (Cleland et al., 2002, p. x). In terms of the second objective, the historical comparison indicated that, between 1992 and 2001, the total number of weight loss advertisements published more than doubled, there was a shift in the types of products advertised from meal replacements to dietary supplements, and the percent of advertisements that made at least one representation that was almost certainly false increased from 0% in 1992 to 31% in 2001.

2004 Weight-Loss Advertising Survey (2005)

In 2005, the FTC published a second analysis of the prevalence of deception in weight loss product advertisements. This report served in part as a follow-up to the 2002 report, but with a narrower focus. This time, the FTC's central aim was to evaluate its efforts involving the seven "scientifically infeasible" Red Flag claims and the promotion of voluntary media screening. In the time since its 2002 report was published, the FTC held the *Deception in weight-Loss Advertising Workshop: Seizing Opportunities and Building Partnerships to Stop Weight-Loss Fraud*, published the workshop's conclusions

in a 2003 report, and disseminated its voluntary screening guidelines for media outlets *Red Flag: A Reference Guide for Media on Bogus Weight Loss Claim Detection*. Importantly, although the 2005 report was released after the launch of *Operation Big Fat Lie,* the sample of advertisements analyzed was published before the associated enforcement cases were announced. In sum, the central goal of the 2005 report was to assess whether the voluntary Red Flag guidelines had reduced the prevalence of Red Flag claims in relevant weight loss product advertisements.

Just as with the 2002 FTC staff report, the 2005 report had two central components. The first objective was to estimate the prevalence of deceptive advertising by analyzing advertisements published between February and May 2004 on a variety of media platforms; the second objective was to examine trends over time by comparing advertisements disseminated before (2001) and after (2004) the Red Flag guidelines were published. This time, however, the historical comparison included a multimedia component as well as one focused on a specific set of national magazines. Even more importantly, the 2005 report focused on a narrower set of weight loss advertisements based on two parameters. First, the FTC limited its analysis to focus solely on weight loss advertisements for products covered by the Red Flag guidelines: nonprescription drugs, dietary supplements, creams, wraps, diet patches, and devices. Second, the FTC only included advertisements published on media outlets conducive to pre-market screening: television, radio, magazines, newspapers, tabloids, and free-standing inserts.

For the first objective, the FTC analyzed the content of a non-random sample of 293 advertisements. To complete the second objective, the FTC had to adapt the sample of 2001 advertisements analyzed in the 2002 report. For the multimedia comparison, this

meant restricting the 2001 sample by product type and media platform, which reduced the sample size from 298 to 98 advertisements. In terms of the magazine-specific historical comparison, only seven of the eight national magazines included in the 2002 report's historical comparison were still in circulation in 2004. As a result, the 2001 magazine sample was restricted my product type and magazine publication, which reduced the sample size from 25 to 13 distinct advertisements. These 13 distinct advertisements from 2001 were compared to the 34 distinct advertisements appearing in 2004.

To estimate the prevalence of deceptive claims in the 2004 sample of advertisements, the FTC coded advertisements for the presence of one or more Red Flag claims. The seven Red Flag claims are defined as follows:

1. Causes weight loss of two pounds or more a week for a month or more without dieting or exercise;
2. Causes substantial weight loss no matter what or how much the consumer eats;
3. Causes permanent weight loss even after the consumer stops using product;
4. Blocks the absorption of fat or calories to enable consumers to lose substantial weight;
5. Safely enables consumers to lose more than three pounds per week for more than four weeks;
6. Causes substantial weight loss for all users; and
7. Causes substantial weight loss by wearing a product on the body or rubbing it into the skin.

To estimate the prevalence of deception in the restricted 2001 advertisement sample, however, the FTC relied on measures similar to Red Flag claims analyzed in the 2002 report. The FTC concluded that the percent of advertisements containing one or more Red Flag claims dropped from 59% to 15% and from 46% to 15% from 2001 to 2004 in the multimedia and magazine-specific samples respectively. As a result, the FTC implied that its voluntary screening guidelines had been successful, stating, "This comparison suggests that, judged by the absence of facially false Red Flag claims, weight-loss

advertising has improved since 2001 in the advertisements surveyed, in the media capable of being screened by the third-party medium disseminating the advertisement...FTC staff believes these results support the Commission's continuing efforts to encourage the media to screen out facially false weight-loss advertisements" (FTC, 2005, p.5-8).

Limitations of the Federal Trade Commission's Evaluations

Despite publically portraying the reports' results as representative of weight loss advertising trends and using the findings as the basis for several internal policy decisions, the FTC has acknowledged that its analysis faces limitations. In the 2005 report, for instance, it stated, "Although the primary comparisons in this report are based on comparable sets of advertisements from 2001 and 2004, the underlying data were not collected in a way designed to produce results that could be generalized to all weight-loss advertising. Caution must therefore be used when drawing conclusions from these results" (FTC, 2005, p.8).

First, with such small, non-random sample sizes in both reports, simply advising "caution" still seems misleading. For instance, the 2002 report made statements based on the analysis of just 8 and 25 advertisements published in magazines in 1992 and 2001 respectively. As a result, statements such as "the 2001 advertisements were much more likely than the 1992 ads to...make expressed or implied claims that the product is safe" next to a figure showing that the prevalence of safety claims increased from 12.5% to 35% between 1992 to 2001, are highly misleading (Cleland et al., 2002, p. 21-22). What this representation really shows is that 1 of 8 non-randomly selected advertisements from

1992 and 8 of 25 from 2001 contained a safety claim, results which are far from statistically significant.

A second issue is that the FTC did not present, or even make reference to, inter-coder reliability estimates used to test the validity of their measures in either of its reports. This is problematic since several of its measures are highly subjective. For instance, both the 2002 and 2005 reports coded for the presence of "rapid" weight loss claims, defined as including both explicit promises such as "rapid weight loss in 28 days!" and "promises of amounts of weight loss over time periods that compute to rapid weight loss" such as "Lose 10 lbs. In 8 days!" (Cleland et al., 2002, p.13). In regard to the latter, however, the FTC did not define a rate of weight loss threshold to be used to determine whether a weight loss claim qualifies as "rapid". In the absence of reliability checks, therefore, it is impossible to tell if such a measure is valued consistently across advertisements or between staffers. The absence of either the former or the latter may have resulted in inaccurate date.

A third drawback is the lack of a consistent definition of deception over time. Of particular concern is the fact that Red Flags did not yet exist when the 2001 and 1994 advertisements were originally coded and analyzed. While it is true that certain characteristics recorded in the 2002 report, such as "no diet or exercise required" reflect particular Red Flag claims, such as "causes weight loss of two pounds or more per week for a month or more without dieting or exercise," the latter is much more specific. As a result, simply comparing the prevalence of the former in 2001 with that of the latter in 2004 is a mischaracterization of change.

Finally, the period in which advertisements analyzed in the 2005 report were published, make holistic evaluation of the Red Flag guidelines as a long-term solution problematic. Specifically, the advertisements were published during a time of hyper-vigilance and intense promotion of the seven Red Flag claims on the part of the FTC. In the 2005 report, the 2004 sample covered advertisements that aired between February and May of 2004, beginning less than two months after the FTC published the workshop report and disseminated the Red Flag guidelines to media outlets. During this time, the FTC made numerous speeches to media groups as well as published several public statements to promote the Red Flag guidelines (Swindle, 2004). Additionally, although not part of an official initiative, in the six months between the creation of the Red Flag guidelines and the end of the 2004 collection period, nearly a dozen false advertising cases were filed against the industry (FOIA Request, 2018). As a result of the emphasis placed on Red Flag claims by the FTC, manufacturers may have been less likely to include and media outlets may have been less likely to publish Red Flag claims during this time period. In other words, the FTC's work may only reflect short-term results.

Independent Reports

A handful of independent researchers have conducted their own evaluations of the Red Flag initiative. For instance, Lellis (2015) documented historical trends in deceptive weight loss product advertising complaints filed by the FTC between 1951 and 2009. By analyzing the content of 167 complaints, Lellis described patterns in advertising practices, parties listed as potentially liable in complaints, enforcement outcomes, and the presence of Red Flag claims. Lellis concluded that the FTC's initiatives may not have

successfully curbed the prevalence of deceptive weight loss claims, which she found had only increased over time.

A limitation of this study is that it focused on complaints filed by the FTC rather than actual advertisements published by the industry. As a result, her findings represent trends in the FTC's enforcement actions, rather than trends in industry practices. Specifically, her finding that the frequency of Red Flag claims per complaint increased from 1970-2010, is likely more indicative of a change in the Commission's focus and the fact that Red Flag claims were not created until 2003 than of actual industry advertising trends.

Conversely, Avery et al. (2013) evaluated the FTC's 2003 Red Flag initiative by studying a large sample of weight loss product advertisements published on cable and network television as well as in a sample of nationally circulated print magazines. Their analysis covered both a pre-initiative (2001-2002) and a post-initiative (2005-2006) time period. Their results indicated that the FTC's Red Flag initiative was associated with a statistically significant decline in the number of deceptive weight loss product advertisements in both print magazines and TV over the period analyzed. It should be noted, however, that although Avery et al.'s findings reflect the same downward trend in Red Flags reported by the FTC, the prevalence in the post-initiative period is considerably higher in Avery et al.'s study, at 24% and 30% of TV and print advertisements respectively. Avery and her colleagues also studied the "potentially deceptive" characteristics, as defined in the FTC's 2002 report. They found that the prevalence of these ad elements increased in TV, but declined in print advertisements over the time period studied. Ultimately, Avery et al. (2013) concluded that, even after

the Red Flag initiative, deceptive and potentially misleading advertisement characteristics remained prevalent in both media types. Additionally, they found that there was some evidence of offsetting behaviors due to the increase in potentially deceptive claims in TV advertisements.

Although more generalizable to industry advertising trends than either the FTC's or Lellis' reports, Avery et al. (2013)'s work still presents limitations. First of all, despite analyzing a large sample of advertisements, the authors did not analyze the complete universe of advertisements or a non-random sample of advertisement airings. This issue was particularly pronounced in their print magazine dataset, which was comprised of a non-random sample of unique advertisements that appeared in just 18 national publications. As a result, these findings cannot be extrapolated to all advertisement airings.

Additionally, as was the case with the FTC's 2005 report, Avery et al.'s "post initiative" period (2005-2006) took place immediately after major FTC actions and during a time of hyper-enforcement. Specifically, *Operation Big Fat Lie*, which included multiple enforcement actions, new consumer educational materials and reminder letters to media outlets - all of which focused specifically on the seven Red Flag claims- was launched less than two months prior to the start of the "post-initiative" period. During this time, the FTC also ramped up its enforcement efforts, filing over 20 complaints between the time *Operation Big Fat Lie* was announced and the end of Avery et al.'s "post-initiative" study period. As a result, to avoid action initiated by the FTC and to pass potential media outlet screening, advertisers were likely to avoid the highly publicized seven Red Flag claims at this time.

Building on Current Literature

My research adds to the current body of literature in several ways. First, I analyze the entire universe of English-language weight loss advertisement airings covered by the Red Flag initiative that appeared in all nationally circulated print magazines or on any (local or national) TV program from January 1, 2010 to December 31, 2011. As a result, my findings are the first to characterize the contents of all advertisement airings published via the media platforms specified during any time period. Although I do not analyze advertisements disseminated through other channels such as radio or the Internet, the two platforms I cover account for over 90% of all dietary supplement advertising expenditures (TNS Media Intelligence, 2011). Furthermore, it is important to note that this study captures the rate at which deceptive claims were seen by consumers. I examine not only the content of unique ads, but also the rate at which each unique ad appeared across the two media platforms. This allows me to determine the number of over-the-counter weight loss product advertisement airings that did and did not contain one or more Red Flag claim violations.

Second, by focusing on advertisements disseminated in 2010 and 2011, this report is the first to evaluate the impact of the FTC's Red Flag initiative on advertising practices several years after its launch. Unlike previous reports, my evaluation period does not immediately follow any related official FTC efforts or take place during a time of intense enforcement action. Specifically, *Operation Big Fat Lie*, which was announced in 2004, was the last major initiative involving the weight loss industry until *Operation Failed Resolution* was launched a decade later (FTC, 2014). Likewise, the FTC's 2005 report marked the last time the Commission evaluated the prevalence of deceptive

advertisements to date. Additionally, after the publication of the 2005 report, there was a decline in the number of enforcement complaints filed by the FTC; relative to 2000-2005, the FTC initiated 50% fewer enforcement actions against the weight loss industry between 2006 and 2011 (FOIA Request, 2018). As a result, my research captures the efficacy of the Red Flag initiative as a long-term solution to deceptive weight loss advertising, rather than just the immediate impact of the FTC's various efforts in the early 2000s.

Lastly, by recording the prevalence of three measures of possible deception- explicit Red Flag claims, implicit Red Flag claims, as well as the "likely deceptive" characteristics defined by the FTC in 2002- I am able to conduct an in-depth, granular-level analysis of weight loss advertising content. This, in turn, allows me to capture more effectively the possibility of offsetting behaviors, relative to past research efforts.

CHAPTER FIVE: METHODS

Data

The data on television and magazine weight loss product advertisements cover years 2010 and 2011 and were purchased from a commercial source, Kantar TNS Media Intelligence. For both media types, the advertising data consists of the universe of all advertisements appearing during that period, and consists of two components: advertisement airing information and creative content. The former details which advertisements aired on which channel and when, and the latter includes digital copies of each unique advertisement. The specifics of the TV and print magazine datasets are outlined below.

Television Advertisements

The TV TNS dataset includes 1,090,281 English-language weight loss advertisement airings, representing 2,868 "unique"[1] advertisements, disseminated from January 1, 2010 to December 31st 2011 on national networks, cable, and spot markets in the top 100 DMAs across the country. The advertisement airings data includes information regarding the date, time, channel, and program on which an advertisement aired. It also contains information on the specific parent company owning that product, brand, and product featured in each advertisement as well the cost of ad placement and length of each advertisement. For this dataset, creative content was received in the form of avi video files, comprised of both visual and audio components.

[1] A "unique advertisement refers to a unique creative ad that may air multiple times during the study period.

During the time period covered, TV weight loss advertisements aired on 11,370 distinct television programs and 1,026 networks. These advertisements capture 43 parent companies (33 brands do not include a specified parent company), 81 brands, and 94 products. Of all TV weight loss advertisements, product types advertised included foods (36.94%), drinks (18.40%), pills (61.35%), plans (50.93%), and other (6.66%). "Other" weight loss product types included a weight loss spray, a free-trial for an unknown product type, weight loss scents, e-books, weight loss strategies, and personal support. The mean number of product types per advertisement airing was 1.74 product types (s.d. = 0.76).

Television programs on which the greatest number of weight loss advertisements aired include Let's Make a Deal (2.92%), Judge Judy (2.29%), Price is Right (2.18%), General Hospital (2.11%), and Days of Our Lives (2.11%). Networks that aired the greatest number of weight loss advertisements include MTV2 (1.18%), LMN (0.64%), Fuse (0.57%), STYL (0.54%), and E! (0.48%). Brands with the greatest number of ads included Nutrisystem (22.58%), Alli, (21.15), Mega-T (12.34%), and Hydroxycut (9.75%).

Print Advertisements

The print magazine TNS dataset includes 3,494 English-language weight loss advertisement airings in all nationally circulated magazine[2], representing 2,549 unique advertisements. The print airings data includes information regarding the date on which and publication in which each advertisement aired as well as the parent company, brand,

[2] National magazines make up over 95% of all magazines circulated in the United States.

and product featured in the advertisement. Additional information includes the cost and page-size of each airing. For print, creative content was received in the form of jpg picture files.

During the time period covered, weight loss print advertisements appeared in 92 distinct national magazines and included 80 parent companies (all airings identified a parent company), 96 brands and 136 products. Of all print weight loss advertisements, product types advertised included foods (22.98%), drinks (19.43%), pills (59.70%), plans (43.93%), and other (25.53%). "Other" weight loss product types included one-on-one counseling, exercise DVDs, books, low-calorie recipes, and weight loss scents. The mean number of product types per advertisement airing was 1.54 product types (s.d. = 0.67).

The magazine publications that published the greatest number of weight loss advertisements include Star (8.93%), OK Weekly (8.61%), National Enquirer (8.01%), Flex (6.30%), and Woman's World (5.84%). Brands with the greatest number of advertisements included Nutrisystem (18.52%), Hydroxycut, (17.29%), Medifast (7.36%), Xenadrine (6.90%), and Fastin (5.07%).

Selection of the Final Dataset to be used in Analysis

Exclusion of Low-Calorie Foods, Special Diets and Meal Replacement Products

The FTC explained in the 2003 guidelines that the Red Flag claims were only meant to characterize deception in "non-prescription drugs, dietary supplements, skin patches, creams, wraps, earrings, or other products that are worn on the body or rubbed into the skin" (Beales, 2003, p.3). The FTC further specified, "*This booklet is not intended to apply to claims made for other diet products and services, such as*

prescription drugs, meal replacement products, low calorie foods, surgery, hypnosis, special diets, or exercise equipment" (Beales, 2003, p.3) To meet the product parameters expressed by the FTC, all weight loss advertisements that do not contain one or more products covered by the Red Flag guidelines were dropped from the datasets prior to analysis. The TV and print datasets contain 410,868 and 1,008 advertisement airings, respectively, that do not feature one or more products covered by the FTC's Red Flag guidelines[3].

Exclusion of Alli

Xenical (orlistat 120mg) was approved by the FDA in 1999 as a prescription drug for obesity management and to reduce the risk of regaining weight once lost when used in conjunction with a reduced calorie diet (FDA, 2015). In 2007, Alli (orlistat 60mg) was approved by the FDA as an over-the-counter medication for weight loss in overweight individuals aged 18 and older in conjunction with a reduced calorie diet (FDA, 2015). Both products are approved by the FDA as a lipase inhibitor, meaning that they promote weight loss by blocking the absorption of fat (FDA, 2010). Alli is the only over-the-counter weight loss drug approved by the FDA and Xenical and Alli are the only products approved by the FDA to promote weight loss by blocking the absorption of fat (NIDDK, 2016)

This information is relevant because Red Flag 4 states: "Blocks the absorption of fat or calories to enable consumers to lose substantial weight" (Beales, 2003, p.5). In the 2003 workshop report that lead to the Red Flag initiative, medical experts acknowledged

[3] Examples of the weight loss advertisements excluded from the appendix due to product type may be found in Appendix B.2

the existence and efficacy of Xenical, but raised doubts regarding the extent of weight loss caused via the mechanism specified (FTC, 2003). The workshop report concluded, however, that "*based on its past experience, as well as the discussion at the workshop, written comments, and published studies, the staff concludes that the claim that a nonprescription drug, dietary supplement, cream, wrap, device, or patch will cause substantial weight loss through the blockage of absorption of fat or calories is not scientifically feasible*" (FTC, 2003, p.i). Consequently, since the active ingredient "orlistat" did not exist in nonprescription form when the Red Flag guidelines were published, it is not clear if the guidelines would apply to such a product. As a result, Alli advertisements, virtually all of which promote the product as enabling weight loss by blocking the absorption of fat, are dropped from the advertising datasets prior to analysis. The TV and print magazine advertisement datasets contain 230,636 and 66 Alli advertisement airing respectively.[4]

Table 1: Advertisement Airings and the Selection of Data for Analysis

Categorization of Advertisement Airings	**TV Ads**	**Print Ads**
All Ads	1,090,281	3,494
Not Covered by FTC (meal replacements, low calorie foods, special diets)	410,868	1,008
Alli Ads	230,636	66
Final Dataset selected for Analysis: Products Covered by the FTC's Red Flag Guidelines)	**448,777**	**2,420**

[4] An example of an Alli advertisement may be found in Appendix B.3

Characteristics of Final Dataset Selected for Analysis

Television Advertisements

The final television advertisement dataset select for analysis contains 448,777 advertisement airings of 1,001 unique advertisements. The dataset includes 30 identified parent companies (24 brands have do not specify a parent company), 59 brands and 67 products. Product types depicted in these advertisements include foods (1.22%), drinks (17.89%), pills (97.66%), plans (9.62%), and other (1.28%) weight loss products. The mean number of product types per advertisement airing was 1.28 (s.d. = 0.55). The length of these advertisement airings ranged from 10 seconds to two minutes, with a mean and median length of 29 and 15 seconds respectively (s.d.= 28.97 and median absolute deviation = 5, respectively). The months with the greatest number of advertisements are January (15.08%) and April (14.01%), whereas the months with the least airings are December (3.47%) and November (2.73%). Figure 3 in Appendix B depicts the monthly trends in ad airings. The mean and median number of advertisements associated with the 59 brands included in the final dataset selected for analysis was 7,606.39 (s.d. = 23,524.63) and 165, respectively. The top 20 brands account for 99.17% of all advertisement airings and are listed below in Table 2. Some of the top brands are owned by the same parent company such as Hydroxycut and Xenadrine, which are owned by Iovate Health Sciences Inc. as well as Zantrex and Jillian Michaels, which are owned by Basic Research LLC.

Table 2: Top 20 TV Brand Names by Number of Ad Airings

Brand Name	N	Percent
1. Mega-T	134,548	29.98%
2. Hydroxycut	106,321	23.69%
3. Lipozene	56,797	12.66%
4. Xenadrine	30,370	6.77%
5. QuickTrim	26,221	5.84%
6. Zantrex	24,553	5.47%
7. Glucosulin	15,555	3.47%
8. Dexatrim	15,539	3.46%
9. Jillian Michaels	9,606	2.14%
10. Bob Harper Smart	5,127	1.14%
11. Sensa	4,773	1.06%
12. CentriLean	3,409	0.76%
13. Slim Café	3,252	0.72%
14. Sustenex	2,738	0.61%
15. Zylotrim	2,598	0.58%
16. PGX Daily	1,421	0.32%
17. Acidophilus	828	0.18%
18. Healthe Trim	501	0.11%
19. Pounds Lost	472	0.11%
20. 40 Pounds In 40 Days	440	0.10%
All Others*[5]	3708	0.83%

[5] All other brands include: Almased, Whole Body Cleanse, Lemonade Diet, NV, LA Weight Loss, Swedish Diet, SlimScents, Flush The Fat, NovoLife, Relacore, Solution 1-2 Punch, OWP Body Fit, Total Trans4m, Phenterex, Crave-NX Spray, Regulene, Spree Diet, Redline, Ignite Maxx, Goslimliu, SlimQuick, Slimmies, Diet Sounds, Jen Fe, Abdominal Fat Reducer, Boda Extract, Shake Away, LipoFX, Tree 4 Life, Complete 500, Forever Slim, Estrin D, Mytoslim, LypoFX, Cortislim, Twinlab, Acai Evaporate, Avilean, and Thin 4 Good

Table 3: Top 20 TV Programs by Number of Ad Airings

TV Program	N	Percent
1. Judge Judy	24,382	5.43%
2. Dr. Phil	18,229	4.06%
3. Doctors	16,700	3.72%
4. Judge Joe Brown	11,207	2.50%
5. Maury	11,147	2.48%
6. Family Feud	11,054	2.46%
7. Divorce Court	11,029	2.46%
8. Inside Edition	8,596	1.92%
9. Rachael Ray	8,485	1.89%
10. Tmz Wknd	7,683	1.71%
11. Judge Alex	7,096	1.58%
12. Who Wants/Millionaire	6,186	1.38%
13. Without A Trace/Ion	5,818	1.30%
14. Friends Wknd	5,789	1.29%
15. Jerry Springer	5,785	1.29%
16. Tyra Show-Cw	4,871	1.09%
17. Steve Wilkos Show	4,855	1.08%
18. Tmz	4,552	1.01%
19. Criminal Minds-Ion	4,212	0.94%
20. Ion Night at/Movies	4,199	0.94%

During the time period covered, one or more ads covered by the FTC's Red Flag guidelines aired on 7,860 TV programs. These advertisements, however, were not evenly distributed and highly concentrated among certain programs. The mean and median number of ads per program was 57.10 (s.d.= 562.64) and 3 respectively. The top 20 programs (0.25% of all programs) that aired the greatest number of relevant weight loss ads accounted for over 40% of the total. Many of these programs draw primarily female viewership (Consoli, 2012).

Print Advertisements

The final print magazine advertisement dataset select for analysis contains 2,420 advertisement airings of 1,611 unique advertisements. The print ad airings dataset included 73 parent companies, 89 brands, and 122 products. Unlike in the TV dataset, all parent companies in the print dataset were identified. Product types depicted in these advertisements include foods (0.66%), drinks (21.12%), pills (83.47%), plans (21.07%) and other (12.56%) weight loss products. The average number of product types per advertisement airing was 1.39 (s.d. =0.66). The length of these advertisement airings ranged from 0.17 pages to 6 pages, with a mean and median page length of 1.05 and 1, respectively (s.d. = 0.68). The months with the greatest number of advertisements are February (10.29%) and March (10.12%), whereas the months the least are December (4.92%) and August (5.95%). Monthly trends in the number of airings can be found in Appendix B.3.

The mean and median number of advertisements associated with the 87 brands included in the final dataset selected for analysis was 26.95 (s.d. = 75.13) and 5 respectively. The top 20 brands account for 87.69% of all advertisement airings and are listed below in table 4.

Table 4: Top 20 Print Brands by the Number of Ad Airings

Brand Name	N	Percent
Hydroxycut	604	24.96%
Xenadrine	241	9.96%
Fastin	177	7.31%
QuickTrim	171	7.07%
SlimQuick	144	5.95%
Lichi Superfruit	131	5.41%
Sensa	95	3.93%
Lipo	91	3.76%
Mulberry	73	3.02%
Jillian Michaels	70	2.89%
Bob Harper Smart	59	2.44%
Relacore	52	2.15%
Ultimate Fat Burner	39	1.61%
VPX	30	1.24%
Almased	28	1.16%
Laci Le Beau	26	1.07%
Rx6	26	1.07%
Atro-Phex	24	0.99%
RoxyLean ECA	23	0.95%
Endless Youth & Life	18	0.74%
Lipodrene	17	0.70%

Advertisements in this dataset appear in 60 national magazine publications, but the 20 magazines with the greatest number of ads accounted for 89.79% of the total.

These magazines, which are largely target at women and focused on fitness, are shown in the Table 5.

Table 5: Top 20 Magazine Publications by Number of Ads Airings

Magazine Publication	Number of Ads	Percent of Total Airings
Star	261	10.79%
OK Weekly	245	10.12%
Flex	220	9.09%
National Enquirer	186	7.69%
Muscle & Fitness	166	6.86%
Woman's World	165	6.82%
In Touch Weekly	161	6.65%
Life & Style Weekly	146	6.03%
First For Women	124	5.12%
US Weekly	111	4.59%
Shape Magazine	90	3.72%
Fitness	54	2.23%
Woman's Day	43	1.78%
Men's Fitness	39	1.61%
Cosmopolitan	32	1.32%
USA Weekend	30	1.24%
Parade	29	1.20%
Natural Health	25	1.03%
Soap Opera Digest	24	0.99%
Redbook	22	0.91%
All others*[6]	247	10.21%

[6] All other magazine publications include Health, Family Circle, Bridal Guide, Ladies' Home Journal, Men's Health, Latina, Southern Living, Self, American Profile, Texas Monthly, Women's Health, Relish, Whole Living, Allure, Bride's, More, People, Runners World, Essence, Nash Country Weekly, Orange Coast, Working Mother, TV Guide, AARP The Magazine, Better Homes & Gardens, Glamour, Prevention, Dash, Marie Claire, Martha Stewart Living, Ocean Drive Magazine, Parents, Rachael Ray Every Day, Spry Living, All You, Fit Pregnancy & Baby, In Style, Maxim, Men's Journal and Organic Gardening

Instrument Pre-Testing, Content Coding and Interrater Reliability

Detailed operational definitions and thorough coding methods are crucial to facilitate an accurate and reliable content coding procedure (Kassarjian 1977). Coding instruments included a codebook, which defined all variables of interest in great detail, and a coding sheet, which was used to record the variable responses for each advertisement. These two coding instruments, which are available upon request, were developed and pretested on a sample not included in the final dataset (occurring before the study period). A team of research assistants underwent an intensive pre-coding training in order to facilitate coder objectivity and reliability. This process also helped to refine the coding instruments.

To begin the content coding process, two sets of research assistants independently coded each unique advertisement. This was done for both TV and print. When the research assistants were finished coding all unique advertisements in each dataset, two statistical measures of interrater agreement were calculated: percent agreement and Cohen's kappa. The most popular measure of interrater agreement is percent agreement, which is simply the rate of agreement between two content coders calculated for each variable. A limitation of this measure is that it is influenced by the number of coding categories used for a variable. Specifically, variables with a smaller number of possible categories have a higher likelihood of chance agreement. To mediate this weakness, I calculated Cohen's kappa for all variables included in the content coding process. This measure of inter-coder reliability accounts for the probability of chance agreement between the two coders (McHugh, 2012). As a result, it is important to note that variables capturing characteristics that appear infrequently may have a very high percent

agreement, but a low Cohen's kappa value. The generally accepted interpretation of kappa values are:

0 = chance agreement,
<.2 = poor agreement,
.2-.4 = fair agreement,
4-.6 = moderate agreement,
.6-.8 = good agreement, and
>.8 = very good agreement.

Both measures were estimated separately for each variable coded in each media type, which can be found in Appendix C5 and Appendix C6. The reliability calculations for this study indicate very good agreement on virtually all measures. In the last stage of the content coding process, a third research assistant reviewed any discrepancies and determined the correct coding response in order to create the final dataset to be used for analysis.

Study Measures

Red Flags: Explicit and Implicit Definitions

In order to calculate the percent of advertisements in the TV and print datasets containing one or more Red Flag claims, I use two measures to capture Red Flag claim prevalence: "explicit Red Flag claims", which are the most conservative indicator of deception, and "implicit Red Flag claims", which pull from the FTC's guidance literature on over-the-counter weight loss products that followed the Red Flag initiative in order to determine which variations on claims would likely qualify as deceptive under the Red Flag guidelines. For the former, only the text of the 2003 Red Flag guidelines is used to calculate the prevalence of "explicit Red Flag claims". For the latter, the Red Flag

guidelines are used in combination with guidance from the FTC's 2003 *Deception in Weight-Loss Advertising Workshop* report, its 2001 *Dietary Supplements: An Advertising Guide for Industry,* and excerpts from complaints filed by the FTC against the industry. Explicit and implicit Red Flag claims are referred to together as "total Red Flag claims". Examples of explicit and implicit Red Flag claims in print advertisements are included in the discussion below.

The need for the dual measure is due to the ambiguity presented by several aspects of the Red Flag claim guidelines. In a 2003 speech the former FTC Commissioner, Orson Swindle, described the Red Flag guidance as a list of seven claims given to the media "*to provide clear guidance for screening ads"* explaining, "*The screening process that we are asking the media to voluntarily adopt involves simply comparing the claims in an ad with the claims on our list*" (Swindle, 2003). In practice, however, this is far from the case. Advertisers, who are likely aware of the FTC's guidelines, are unlikely to include verbatim Red Flag claims in their advertisements. This, in turn, results in uncertainty regarding whether or not a particular statement variations qualify as deceptive. While the definitions and examples provided in the Red Flag guidelines shed some light on acceptable variations, in other instances, one must look to external sources.

Below, for each Red Flag claim, I detail the explicit definition using solely guidance from the Red Flag guidelines and, when applicable, I then discuss remaining questions and explain how additional FTC literature was used to define an implicit Red Flag definition. For all Red Flags referencing "substantial weight" I use the definition included in the guidelines, which state that substantial weight "means "a lot of weight"

and would include weight loss of a pound a week for more than four weeks or total weight loss of more than 15 pounds in any time period. Substantial weight loss can also be suggested by references to dress size, inches, and body fat. But, as the examples illustrate, ads may convey this message "without using specific numbers" (Beales, 2003, p.5). Since the FTC does not specify "substantial weight" thresholds for weight claims made in non-pound units, all such claims are categorized as substantial.

<u>Red Flag 1</u>: "Causes weight loss of two or more pounds per week for a month or more without dieting or exercise"

The text following the introduction of Red Flag 1 in the guidelines state, "*Meaningful weight loss requires consuming fewer calories and/or increasing exercise. Ads that promise substantial weight loss without diet or exercise are false. A claim is false if it says or suggests that users can lose weight fast without changing their lifestyles, even if the ad doesn't mention specific amounts of weight loss or time periods. The four measurements used in weight loss ads are pounds, dress size, inches, and body fat, any one of which can be used to convey the message of substantial weight loss*" (Beales, 2003, p.7). The examples of Red Flag 1 enumerated by the FTC include the following:

- *"Today, there exists a safe, all-natural, bio-active weight loss compound so powerful, so effective, so relentless in its awesome attack on bulging, fatty deposits that it has virtually eliminated the need to diet." [Next to, before, and after pictures with quote, "I lost 36 pounds in 5 weeks."]"*
- *"I lost 30 pounds in 30 days even though I ate all my favorite foods."*
- *"Lose up to 2 pounds daily without diet or exercise."*
- *"I lost 15 pounds in 30 days without having to change my eating habits or lifestyle in any way. See results fast without back-breaking exercise."*
- *"Go from a size 12 to a size 6; lose inches QUICKLY, and do absolutely nothing but take this pill."*

Consequently, the explicit definition of Red Flag 1 is interpreted as including any advertisements stating that, without lifestyle adaptation, the featured product causes

weight loss of two or more pounds per week, 15 pounds or more overall if no time period is specified, or any amount of weight loss in a unit other than pounds. Statements qualifying as “Explicit Red Flag One” need not mention “without dieting or exercise” directly, but may imply it by stating that only product use is required to achieve weight loss. Moreover, advertisements that contain conflicting statements, such as ones claiming that weight loss can be achieved without lifestyle changes in the body of the advertisement while also including a “use with diet and exercise” disclaimer in small print at the bottom of the advertisement, are characterized as violating the spirit of Red Flag 1. This is due to the fact that the guidelines explain, “*some ads may contain conflicting statements. It is the overall message that has the greatest effect on your audience*” (Beales, 2003, p.5). An example of an ad containing explicit Red Flag 1 is shown in Figure 1; the explicit Red Flag is encircled in red.

Figure 1: Example of Explicit Red Flag 1

The Red Flag guidelines, however, do not provide instruction on whether an advertisement that does not explicitly state the requirement for diet and exercise, or does not do so "clearly and prominently" qualifies as deceptive under Red Flag 1. In the 2003 workshop report, however, the Commission states, *"FTC case law is well established that where a product requires a restricted caloric intake to be effective, that fact must be clearly and prominently disclosed in the advertising for the product"* (FTC, 2003, p.46). Moreover, in its 2001 guidelines on dietary supplements, the FTC gave the following example of an advertisement:

"The banner headline claims "LOSE 5 POUNDS IN 10 DAYS," the ad copy discusses how easy it is to lose weight by simply taking the product 3 times a day, and the ad includes dramatic before-and-after pictures. *A fine print disclosure at the bottom of the ad, "Restricted calorie diet and regular exercise required," would not be sufficiently prominent to qualify the banner headline and the overall impression that the product alone will cause weight loss*" (FTC, 2001, p.7)

The FTC went on to describe that, to stop the ad from being deceptive, it must be revised to include "a prominent indication of the need for diet and exercise" (FTC, 2001, p, 7) Consequently, advertisements qualifying as "Implicit Red Flag 1" includes those failing to "clearly and prominently" disclose the fact that lifestyle changes are necessary to achieve weight loss and claiming weight loss of more than two pounds per week, 15 pounds overall, or weight loss in a non-pound unit. "Total Red Flag 1" combines the explicit and implicit definitions. An example of an advertisement that qualified as containing an implicit, rather than explicit, Red Flag 1 is shown in Figure 2.

Figure 2: Example of Implicit Red Flag 1

Red Flag 2: "Causes substantial weight loss no matter what or how much the consumer eats"

In its explanation of Red Flag 2, the FTC guidelines explain that "it is impossible to eat unlimited amounts of food- any kind of food- and still lose weight. Any claim to that effect in an ad or commercial is false." The FTC includes the following variations (Beales, 2003, p.9):

- *"This breakthrough ingredient has patients losing one full pound every 12 hours, two pounds or more each day, and all without counting calories, without missing a single meal, and without giving up those delicious, mouthwatering foods they love the most."*
- *"My 'formula for living' lets you eat hamburgers, hot dogs, fries, steak, ice cream, sausage, bacon, eggs and cheeses! And STILL LOSE WEIGHT!"*
- *"Eat all the foods you love, and still lose weight (pill does all the work)."*
- *"I lost nine pounds during my first week eating just as I always do — going to parties, even eating gobs of vacation goodies, including my favorite food: ice cream. Four weeks later, and I've lost another 27 pounds."*
- *"Eat any mouthwatering food you want, and still blast away dress sizes and belt notches lightning fast."*

To define "Explicit Red Flag 2", therefore, I use the FTC's definition of "substantial weight" in combination with any explicit claim that the user can lose substantial weight regardless of what or how much he or she eats. Since "Implicit Red Flag 1" already captures advertisements that do not prominently indicate the need to engage in a restricted-calorie diet, I did not feel the need to create an implicit measure of Red Flag 2. An example of an ad that contained Red Flag 2 is shown in Figure 3, where Red Flag 2 is indicated in red.

Figure 3: Example of Red Flag 2

ADVERTISEMENT

Melts Fat Fast . . .

"Look Great Naked!"

Doctor's amazing breakthrough easily melts fat, lose 10 to 50lbs or more 3 times faster *WITHOUT* dieting, leaving you looking sexy, feeling younger

Your health is my passion. It was 12.07am ... New Year's Day, when I overheard a group of women swapping their biggest New Year's resolutions. It was no surprise they all wanted to lose weight, look and feel younger, look sexier, have more energy and less stress.

Several of the ladies said what they really wanted above all, was to look great naked, not just for themselves but for their partner.

As their conversation progressed, most of the women complained about trying different fad diets, and fitness routines. Their biggest complaint was how to keep their weight off, without starving, without dieting to become slim and sexy forever.

I politely interrupted the ladie's conversation and revealed my secret formula so they could get the results they desired without the complaints.

Would you like to achieve the same results - shed 10lbs, 15lbs, 30lbs, 50lbs, 100lbs or more and keep it off forever without starving yourself to death or fad dieting - FAST?

Melts Fat 3 Times Faster

Years ago I made it my mission to formulate my own parasite and colon cleanse. After months of research, I discovered a secret blend of Amazonian herbs that when combined together, creates a powerful effect which detoxifies your colon and liver in such a unique way, it increases your fat burning capabilities 3 fold!

I flew to the Amazon, to secure the secret ingredients to create a detox product which not only contained pure, natural, high quality Amazonian ingredients, but literally **flushes away** your toxic waste, parasites and **FAT** gently and EFFORTLESSLY 3 times **FASTER** than any other product!

Thousands of patient trials later, my ground breaking formula - Lotus Purity Detox Cleanse had been perfected which produces amazing results quite like no other product.

Your Warning Signs

If you suffer from any of these tell tale signs, then you need the Lotus Purity Detox Cleanse Formula:

- **Gaining/Losing excess weight**
- **Excess belly weight ("pooch")**
- **Uncontrollable food cravings**
- **Digestion problems**
- **Fatigue or frequent tiredness**
- **Headaches**
- **Unstable mood swings**
- **Mental fogginess**
- **Chronic bad breath**
- **Flatulence and bloating**
- **Constipation**
- **Foul-smelling stools**

Look Sexy, Feel Younger

Perhaps you want to look and feel sexy, younger, where your husband or lover takes notice of the new you?

One lady sent me a letter saying- *"A complete stranger walked up to me in the mall and said I had a nice butt", another said "I feel sexy again, I now look good naked!"*

Losing weight could be your main concern, Keeping it off isn't always easy – until now. Just look around you as more and more diet foods, magic diets, diet fads, health foods & even drugs supposedly designed to make you lose weight become available, people are nevertheless getting FATTER and FATTER, less healthy!!

What Others Say . . .

"I feel sexy again thanks to your product! Before, I would often feel sluggish and bloated. That has all changed. I feel energetic! Best of all, I've shed off pounds and slimmed down my figure. Trust me when I say that my husband has taken notice!"
- Stephanie Mercer-Pittsburgh, Pa

"A great product that helped regularity, digestion, and weight loss. In general I feel fit and slim."
- Allison Horton-Knightdale, North Carolina

"Lotus Purity changed my life! I lost 29 pounds in 4 weeks, I feel better than ever". - Mark Stevenson, Seattle WA

30 Day Money Back Guarantee

Dr. Suzanne personally guarantees her Lotus Purity Detox Cleanse with her 30 day unconditional, money back guarantee. It comes with clear instructions which clearly explain how to use it. Start shedding pounds, feeling sexy, having more energy with Lotus Purity and keep on getting healthier as you follow Dr. Suzanne's formula or return your unused portion within 30 days for a no hassle, no questions will be asked, full refund (minus S & H).

Either you are 100% Happy, or I want you to ask for your money back. Fair enough?

Dr Suzanne Gudakunst

Dr Suzanne Gudakunst

Call 24 hr. TOLL FREE
1800-291-4347 Now . . .
to Claim 50% Off

YES ... Dr. Suzanne! I want to look great naked, melt fat fast, look sexier, and feel younger without dieting.

HURRY! If you are in the **first 197 people** to call you will qualify for a 50% off as a reader of the National Enquirer. When you call, you will get full information on a package which works for you. Call, 24 hour, Toll **FREE** now on **1800-291-4347**

3. Causes permanent weight loss even after the consumer stops using product :

When presenting Red Flag 3, the FTC explains, "Without permanent lifestyle changes… weight loss does not last once product use stops. This does not include claims for permanent or long-term weight loss that clearly communicate that continued use of the product is required." The FTC enumerates the following variations (Beales, 2003, p.11):

- *"Take it off! And keep it off!"*
- *"Thousands of dieters are already using it and losing weight faster than they have before…and keeping the weight off."*
- *"For 15 years, Mary yo-yo dieted without success. Fed up and desperate, she discovered a new miracle product to lose weight easily and permanently."*
- *"The amazing 'Fat-Sponge in a Pill' that lets you eat more, weigh less and finally…yes, finally…slim down for good for the rest of your life."*
- *"Tired of yo-yo diets without success? This miracle product lets you lose the weight easily and permanently."*
- *"It can help you quickly lose the weight, and keep it from returning."*
- *"People who use this product say that even when they stop using the product, their weight does not jump up again."*

From the variations above, it is clear that to qualify as Red Flag 3, the advertisement need not explicitly state "even after the consumer stops using the product;" discontinued use is implied. As a result, any claim that states permanent or long-term substantial weight loss, without disclosing the requirement for ongoing product use or lifestyle changes, qualifies as "Explicit Red Flag Three". Additionally, since no FTC guidelines were identified regarding advertisements that do not specify length of weight reduction, no implicit measure of Red Flag 3 was created. An example of an ad that contained Red Flag 3 is shown in Figure 4.

Figure 4: Example of Red Flag 3

<u>Red Flag 4:</u> Blocks the absorption of fat or calories to enable consumers to lose substantial weight

In the text associated with Red Flag 4, the FTC states "No fat blocker can block enough fat or calories to cause lots of weight loss" in its guidelines. It then includes the following variations (Beales, 2003, p.13):

- "Lose up to two pounds daily…Apple Pectin is an energized enzyme that can ingest up to 900 times its own weight in fat. That's why it's a fantastic FAT BLOCKER."
- "Brindall berries cause very rapid and substantial weight loss by reducing fat absorption by 76%."
- "Super Fat-Fighting Formula guarantees rapid weight loss. Shortly after ingesting small amounts of the component, it dissolves into a gel that absorbs and surrounds excess fat and calories, preventing them from forming body fat."
- "This product blocks fat before your body absorbs it; the pounds will melt away effortlessly."
- "The Super Fat-Fighting Formula inhibits fats, sugars and starches from being absorbed in the intestines and turning into excess weight, so that you can lose pounds and inches easily."
- "Mulletwood is an 'all-natural ingredient' designed to attract and absorb excess calories and transport them out of your system. Watch the weight come off your body."

From the variations included above, it is inferred that "blocking" or preventing the "absorption" of any macronutrient to cause substantial weight loss qualifies as deceptive under Red Flag 4; the precise wording does not have to include "fat" or "calories". An example of an ad that contained explicit Red Flag 4 is shown in Figure 5.

Figure 5: Example of Explicit Red Flag 4

Although one of the variations includes the claim "... pounds will melt away effortlessly", it is used in conjunction with a statement that the product will block fat before it is absorbed. The Red Flag guidelines are not clear on if statements such as "melt pounds" or "burn calories" are in it of themselves deceptive under Red Flag 4 without reference to malabsorption. In its discussion of substantial weight loss via malabsorption, however, the 2003 Workshop report states, "Theoretically, products purporting to cause weight loss without diet or exercise would either need to cause malabsorption of calories or to increase metabolism (so-called "thermogenic agents")…With regard to thermogenic agents, it is often difficult to evaluate the supporting evidence, given the lack of rigorous methodology in many of the studies in question. In any event, the effect of purported metabolism boosters appears to be very limited" (FTC, 2003, p.6) Additionally, in a 2014 deceptive advertising complaint, under a section titled "False or Unsubstantiated Efficacy Claims" the FTC included the statements "burn fat and causes fat loss" and "boost metabolism"(FTC v. John Matthew Dwyer III, 2014, p.9). Consequently, "Implicit Red Flag 4" includes all advertisements claiming a product causes substantial weight loss via enhancing metabolic performance or by burning or melting fat or calories. "Total Red Flag 4" includes both implicit and explicit definitions. An example of an ad that qualified as containing an implicit, but not explicit, version of Red Flag 4 is shown in Figure 6.

Figure 6: Example of Implicit Red Flag 4

<u>Red Flag 5:</u> Safely enables consumers to lose more than three pounds per week for more than four weeks

In its explanation of Red Flag 5, the FTC describes, "Losing more than three pounds per week over multiple weeks can result in gallstones and other health complications, so the safety claim is false." The FTC includes the following variations (Beales, 2003, p.15):

- *"Lose 30-40-50 pounds. Yes! You can lose three pounds per week, naturally and without side effects."*
- *"Neptune's Potion is safe and effective," with customer testimonials claiming more than 12 pounds of weight loss per month.*

Since, in all other claims, statements that give weight claims without specified time periods or in units other than pounds can qualify as deceptive, it is assumed that advertisements promoting the safe, *fast* weight loss of 15 pounds or more when no time period is specified, or in a unit other than pounds, qualify as deceptive under the explicit definition of Red Flag 5. Based on the examples provided, to qualify as deceptive under the explicit definition of Red Flag 5, the advertisement must state the word "safe" or some reasonable variation of "without side effects". Additionally, based on the variations provided, it is inferred that an advertisement qualifying as explicit Red Flag 5 need not specify "for more than four weeks". Lastly, as was the case with Red Flag 1, advertisements that contain conflicting safety claims still qualify as deceptive. Figure 8 is an example of an advertisement that contained an explicit version of Red Flag 4. The statement is encircled in red.

Figure 7: Example of Explicit Red Flag 5

Despite highlighting that rapid weight loss can be unsafe, the Red Flag guidelines do not state whether advertisements that guarantee rapid weight loss while indirectly implying safety qualify as deceptive under Red Flag 5. The FTC's *Dietary Supplements: An Advertising Guide for Industry*, however, states "advertising that makes either an express or implied safety representation should include information about any significant safety risks" (FTC, 2001, p.5). Advertisements including testimonials or endorsements from medical professionals as well as those that claim to cause "all-natural" weight loss or be backed by clinical studies are likely to imply safety to a reasonable consumer. As the FTC has reiterated time and again, "in determining the meaning of an advertisement, a piece of promotional material or a sales presentation, the important criterion is the net impression that it is likely to make on the general populace" (*Grolier*, *91* F.T.C 315, 430 (1978) as cited in Miller, 1983, p3). The notion that the net impression of an advertisement would imply that a product is safe to a rational consumer is further supported by research showing that the

majority of American adults (both supplement-users and nonusers) believe dietary supplements are tested for safety prior to being placed on the market (Pillitteri et al., 2008). The FTC's 2002 report also supports the fact that advertisements with conflicting statements are still deceptive stating, "Conflicting messages in an advertisement about safety may confuse consumers and, ultimately, may cause them to ignore safety-related warnings" (Cleland et al., 2002, p. 20). Likewise, as seen in Figure 8, many advertisements that due contain disclaimers do so in a small, hard-to-red fashion. Consequently, any advertisement promoting weight loss of more than three pounds per week, rapid weight loss of 15 pounds or more, or rapid weight loss in a unit other than pounds, in combination with an endorsement from a medical professional, a claim that the product is "clinically tested" or a statement that the product is "all natural" qualifies as "Implicit Red Flag 5". "Total Red Flag 5" both explicit and implicit definitions. Figure 8 depicts an advertisement that qualified as containing implicit Red Flag 5.

Figure 8: Example of Implicit Red Flag 5

<u>Red Flag 6:</u> "Causes substantial weight loss for all users"

In regard to Red Flag 6, the FTC simply stated in its guidelines, "No product will work for everyone." The guidelines note the following variations (Beales, 2003, p.15):

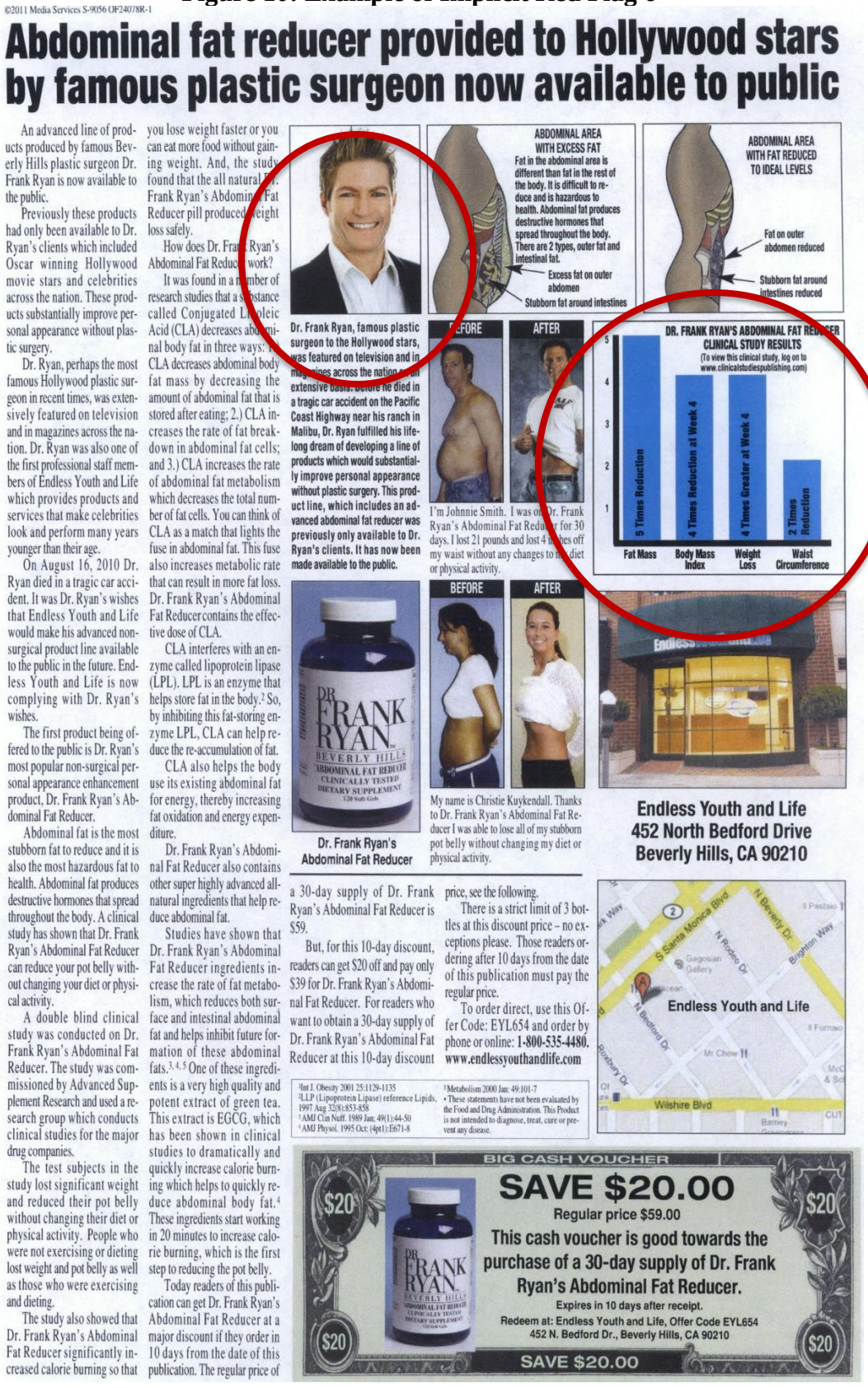
- *"Lose excess body fat. You cannot fail, because no will power is required."*
- *"Lose 10-15-20 pounds. Works for everyone, no matter how many times you've tried and failed before."*
- *"Everyone in our study lost substantial weight. Failure is impossible."*
- *"Melt away ugly body fat. The product targets fat and eliminates it, regardless of body type and size."*

Based on the variations enumerated, it is inferred that claims qualifying as deceptive under Red Flag 6 need not state "for all users," but rather, may imply the same message through phrases such as "regardless of body type," and "failure is impossible." Consequently, "Explicit Red Flag 6" is defined as including all advertisements stating that the product causes substantial weight loss for all users or that failure is impossible. Figure 9 presents an example of explicit Red Flag 6.

Figure 9: Example of Explicit Red Flag 6

The Red Flag guidelines, however, do not discuss ways in which advertisements can imply that all users of the product will lose weight. For instance, although the one of the Red Flag 6 variation above states "everyone in our study lost substantial weight," it is ambiguous regarding if such a reference on its own qualifies as deceptive under Red Flag 6. The Workshop report provides some clarity stating, "Many marketers attempt to bolster the credibility of their claims by asserting that the advertised product has been scientifically tested and proven to work. Phrases like "the clinically proven healthy way to lose weight," "clinically tested," "scientifically proven," and "studies confirm" bestow products with an aura of scientific legitimacy and aim to persuade consumers that they should feel confident that a product will work" (Cleland et al., 2002, p. 17). "Implicit Red Flag 6," therefore, is defined as advertisements containing a significant weight claim as well as a representation that implies guaranteed weight loss such as "clinically proven" or "lose weight or get your money back, guaranteed." "Total Red Flag 6" includes both implicit and explicit definitions. Figure 10 shows an ad that qualified as containing implicit Red Flag 6.

Figure 10: Example of Implicit Red Flag 6



©2011 Media Services S-9056 OF24078R-1

Abdominal fat reducer provided to Hollywood stars by famous plastic surgeon now available to public

An advanced line of products produced by famous Beverly Hills plastic surgeon Dr. Frank Ryan is now available to the public.

Previously these products had only been available to Dr. Ryan's clients which included Oscar winning Hollywood movie stars and celebrities across the nation. These products substantially improve personal appearance without plastic surgery.

Dr. Ryan, perhaps the most famous Hollywood plastic surgeon in recent times, was extensively featured on television and in magazines across the nation. Dr. Ryan was also one of the first professional staff members of Endless Youth and Life which provides products and services that make celebrities look and perform many years younger than their age.

On August 16, 2010 Dr. Ryan died in a tragic car accident. It was Dr. Ryan's wishes that Endless Youth and Life would make his advanced non-surgical product line available to the public in the future. Endless Youth and Life is now complying with Dr. Ryan's wishes.

The first product being offered to the public is Dr. Ryan's most popular non-surgical personal appearance enhancement product, Dr. Frank Ryan's Abdominal Fat Reducer.

Abdominal fat is the most stubborn fat to reduce and it is also the most hazardous fat to health. Abdominal fat produces destructive hormones that spread throughout the body. A clinical study has shown that Dr. Frank Ryan's Abdominal Fat Reducer can reduce your pot belly without changing your diet or physical activity.

A double blind clinical study was conducted on Dr. Frank Ryan's Abdominal Fat Reducer. The study was commissioned by Advanced Supplement Research and used a research group which conducts clinical studies for the major drug companies.

The test subjects in the study lost significant weight and reduced their pot belly without changing their diet or physical activity. People who were not exercising or dieting lost weight and pot belly as well as those who were exercising and dieting.

The study also showed that Dr. Frank Ryan's Abdominal Fat Reducer significantly increased calorie burning so that you lose weight faster or you can eat more food without gaining weight. And, the study found that the all natural Dr. Frank Ryan's Abdominal Fat Reducer pill produced weight loss safely.

How does Dr. Frank Ryan's Abdominal Fat Reducer work?

It was found in a number of research studies that a substance called Conjugated Linoleic Acid (CLA) decreases abdominal body fat in three ways: 1.) CLA decreases abdominal body fat mass by decreasing the amount of abdominal fat that is stored after eating; 2.) CLA increases the rate of fat breakdown in abdominal fat cells; and 3.) CLA increases the rate of abdominal fat metabolism which decreases the total number of fat cells. You can think of CLA as a match that lights the fuse in abdominal fat. This fuse also increases metabolic rate that can result in more fat loss. Dr. Frank Ryan's Abdominal Fat Reducer contains the effective dose of CLA.

CLA interferes with an enzyme called lipoprotein lipase (LPL). LPL is an enzyme that helps store fat in the body.[2] So, by inhibiting this fat-storing enzyme LPL, CLA can help reduce the re-accumulation of fat.

CLA also helps the body use its existing abdominal fat for energy, thereby increasing fat oxidation and energy expenditure.

Dr. Frank Ryan's Abdominal Fat Reducer also contains other super highly advanced all-natural ingredients that help reduce abdominal fat.

Studies have shown that Dr. Frank Ryan's Abdominal Fat Reducer ingredients increase the rate of fat metabolism, which reduces both surface and intestinal abdominal fat and helps inhibit future formation of these abdominal fats.[3,4,5] One of these ingredients is a very high quality and potent extract of green tea. This extract is EGCG, which has been shown in clinical studies to dramatically and quickly increase calorie burning which helps to quickly reduce abdominal body fat.[4] These ingredients start working in 20 minutes to increase calorie burning, which is the first step to reducing the pot belly.

Today readers of this publication can get Dr. Frank Ryan's Abdominal Fat Reducer at a major discount if they order in 10 days from the date of this publication. The regular price of a 30-day supply of Dr. Frank Ryan's Abdominal Fat Reducer is $59.

But, for this 10-day discount, readers can get $20 off and pay only $39 for Dr. Frank Ryan's Abdominal Fat Reducer. For readers who want to obtain a 30-day supply of Dr. Frank Ryan's Abdominal Fat Reducer at this 10-day discount price, see the following.

There is a strict limit of 3 bottles at this discount price – no exceptions please. Those readers ordering after 10 days from the date of this publication must pay the regular price.

To order direct, use this Offer Code: EYL654 and order by phone or online: **1-800-535-4480. www.endlessyouthandlife.com**

[1] Int J. Obesity 2001 25:1129-1135
[2] LLP (Lipoprotein Lipase) reference Lipids. 1997 Aug 32(8):853-858
[3] AMJ Clin Nutf. 1989 Jan; 49(1):44-50
[4] AMJ Physol. 1995 Oct: (4pt1):E671-8
[5] Metabolism 2000 Jan: 49:101-7

• These statements have not been evaluated by the Food and Drug Administration. This Product is not intended to diagnose, treat, cure or prevent any disease.

Dr. Frank Ryan, famous plastic surgeon to the Hollywood stars, was featured on television and in magazines across the nation on an extensive basis. Before he died in a tragic car accident on the Pacific Coast Highway near his ranch in Malibu, Dr. Ryan fulfilled his lifelong dream of developing a line of products which would substantially improve personal appearance without plastic surgery. This product line, which includes an advanced abdominal fat reducer was previously only available to Dr. Ryan's clients. It has now been made available to the public.

I'm Johnnie Smith. I was on Dr. Frank Ryan's Abdominal Fat Reducer for 30 days. I lost 21 pounds and lost 4 inches off my waist without any changes to my diet or physical activity.

Dr. Frank Ryan's Abdominal Fat Reducer

My name is Christie Kuykendall. Thanks to Dr. Frank Ryan's Abdominal Fat Reducer I was able to lose all of my stubborn pot belly without changing my diet or physical activity.

Endless Youth and Life
452 North Bedford Drive
Beverly Hills, CA 90210

BIG CASH VOUCHER

SAVE $20.00

Regular price $59.00

This cash voucher is good towards the purchase of a 30-day supply of Dr. Frank Ryan's Abdominal Fat Reducer.

Expires in 10 days after receipt.

Redeem at: Endless Youth and Life, Offer Code EYL654
452 N. Bedford Dr., Beverly Hills, CA 90210

$20 $20 $20 $20

SAVE $20.00

<u>Red Flag 7:</u> "Causes substantial weight loss by wearing a product on the body or rubbing it into the skin.

The FTC justifies the inclusion of Red Flag 7 in the guidelines by stating, "This is a product category. It includes diet patches, topical creams and lotions, body wraps, special clothing, rings, earrings, body belts, and shoe inserts, among others. These products do not cause substantial weight loss". The FTC presented the following variations:

- *"Lose two to four pounds daily with the Neptune Diet Patch."*
- *"Neptune Reducing Cream drops pounds and inches from your thighs."*

Red Flag 7 is perhaps the least ambiguous Red Flag claim since any advertisement for such a product claiming to cause substantial weight loss qualifies as deceptive. As a result, I did not create an implicit definition for Red Flag 7. There were no products qualifying as Red Flag 7 in the print advertising dataset, but there was one, called Jen Fe (a weight loss patch), in the TV dataset. A frame from a Jen Fe advertisement included in the TV ad dataset is shown below.

Figure 11: Example of Explicit Red Flag 7

Additional Measures of Misrepresentation Defined by the FTC: Potentially Deceptive Characteristics

In addition to the Red Flag measures discussed above, the coding instrument also captured other elements of weight loss advertising content defined by the FTC in 2002 as "almost certainly false" characteristics that "should raise red flags about the veracity of the claims." As previously discussed, several of these characteristics were later transformed into Red Flag claims, but many others were not. Consequently, advertisements including one or more of the following elements were classified as containing a "potentially deceptive representation".

1. Consumer testimonial

In its 2002 evaluation of weight loss advertisements, the FTC explained that consumer testimonials may portray a deceptive representation by saying:

Weight-loss testimonials convey more than a limited message about one person's experience. They also convey a very convincing claim to consumers that the product is effective and, in some instances, that the product will enable the user to experience similarly dramatic results. Thus, testimonials can be deceptive in at least three distinct ways. First, the testimonialist may not have experienced the reported result. Testimonials that claim that users lost more than 30 pounds in as little as 30 days likely fall into this category. Second, the reported weight loss may not be attributable to the product, but to other diet, exercise, or lifestyle changes. Third, an advertisement presenting testimonials claiming extreme and atypical weight loss as typical or ordinary experiences is likely to be deceptive without an indication of the more modest weight loss results that the typical user would experience using the product (Cleland et al., 2003, p. 10-11)

The FTC did not define "consumer testimonial" in its analysis. I defined this measure as any advertisement containing a consumer's portrayal of his or her weight loss experience attributed to the product featured in the advertisement.

2. Before-and-after photos

Before-and-after photos were described as possibly deceptive for the same reason as testimonials; they often portray unrealistic or atypical weight loss. The FTC's 2002 report explains that before-and-after photos can come in several forms. While some advertisements simply display a picture of an individual before and after weight loss, others illustrations may show a sequence of several photos, focus on a particular body part, or show an animation of weight loss. Consequently, I define this characteristic as any visual representation of weight loss, which includes items such as holding up "fat pants", time series, and standard before-and-after comparisons.

3. Physician endorsement of the product

As the FTC describes, advertisers often include physician endorsements of medical professionals in their advertisements to "add an air of legitimacy" (Cleland et al., 2002, p. 18). This is possibly deceptive because, in many instances, one or more of the following are true: 1. " An advertisement may fail to disclose that the medical professional endorsing the product has a financial interest in promoting the sale of the product – a fact likely to affect the weight consumers give the endorsement and that could affect their purchase decision;" 2. "Marketers may even use a fictitious medical professional to endorse their products;" and 3. "Experts either may not have actually reviewed the scientific evidence on the product or its ingredients or failed to utilize existing expert standards in conducting their review" (Cleland et al., 2002, p. 18). In my report, I categorize an advertisement as "physician endorsed" it claims to be "doctor recommended" or if the advertisement contains a medical professional. Medical professionals are defined as individuals introducing themselves as such ("doctor," "nutritionist" etc.) or who is portrayed as such (wearing a white coat or stethoscope).

4. Claim that the product is clinically proven

The FTC defines this characteristic as potentially deceptive since "Many marketers attempt to bolster the credibility of their claims by asserting that the advertised product has been scientifically tested and proven to work" (Cleland et al., 2002, p. 17). The FTC noted that many of the ingredients touted as "clinically proven" "were challenged based on insufficient scientific evidence to support the weight loss claims made in the advertisements" (Cleland et al., 2002, p. 17). The FTC also stated, "These claims do little to inform consumers and most ads fail to provide consumers with sufficient information to allow them to verify the advertisers' representations" (Cleland et al., 2002, p. ix). Variations of "clinically proven" included "research shows," "university tested," "clinical studies indicate," and "scientifically proven".

5. Claim that the product is "all natural"

The FTC discussed "all natural" in the context of safety claims, but coded for its presence separately. One independent example of this characteristic was given as, "A natural way to jumpstart your weight loss" (Cleland et al., 2002, p.23). As a result, it is inferred, that for an advertisement to qualify as containing this characteristic, it may simply claim to be "natural" rather than "natural. Therefore, I included statements such as "made with natural ingredients" under this claim.

6. Claim that the product is safe

The FTC explains that there are several ways in which a safety claim may be made; "Some ads contain direct, unqualified representations about the safety of the

product or service in producing weight loss, including such statements as “safe and effective”...Others make direct comparisons between the safety of the product or service and other weight-loss methods, with claims like “safer than liposuction”... Many other weight-loss advertisements strongly imply that the product or service is safe because it has no side effects” (Cleland et al., 2002, p.19). The FTC explains that, “Safety claims for weight-loss products are of serious concern. The primary concern is that potentially serious adverse health effects can result if the claim is untrue or the effects of a product are unproven...Consumers’ inability to make informed decisions about the safety of such products clearly raises the potential for serious adverse health consequences” (Cleland et al., 2002, p.20).Variations making any reference to health, safety, and a lack of side effects were included.

7. Money-back guarantees

The FTC explains that money-back guarantees may be deceptive for two reasons. First, it suggests that the product is guaranteed to work, even when there may not be supporting evidence. Second, “marketers may fail to honor refund requests at all or delay honoring them for months. In fact, the Federal Trade Commission has brought several cases against marketers failing to make refunds promised in their advertising” (Cleland et al., 2002, p.19). The following variations were included in this characteristic definition “lose weight or don’t lose a dime,” “at no financial risk to you,” and “send it back and pay nothing.”

8. Rapid weight loss claims

The FTC explained that rapid weight loss is not only unlikely, but also unsafe. As previously noted, in the 2002 FTC report, "rapid weight loss" is defined as including both explicit promises such as "rapid weight loss in 28 days!" and "promises of amounts of weight loss over time periods that compute to rapid weight loss" such as "Lose 10 lbs. In 8 days!" (Cleland et al., 2002, p.13). In the latter, however, the FTC does not define a threshold that determines whether a rate of weight loss claim is "rapid". As a result, I decided to use a conservative measure of this characteristic and only include the former in the definition used for my analysis. In other words, to qualify, advertisements must explicitly state that results are "rapid," "fast," "immediate," or use some other variation of these terms.

Other Creative Content Recorded

In addition to the various measures of deception defined by the FTC and discussed above, I included several other variables of interest in my content coding process. These additional variables allow me to gain a more holistic understanding of advertising practices. Although not direct measures of deception, these additional characteristics shed light on the ways in which advertisers engage in offsetting behaviors to avoid scrutiny in a regulatory environment focused on explicit Red Flags.

Product Disclaimers

Several product warnings and disclaimers have been of particular interest to the FTC and FDA. For instance, in 2004, the Commission published a report focused on evaluating the impact of various weight loss claims made in advertisements. In the study,

the FTC controlled for various disclaimers and asked participants to estimate the amount of weight loss a new user of the advertised product should expect to lose. The researchers found that while disclaimers such as "results not typical" and "experiences of a few" were ineffective in reducing respondents' expectations for weight loss, the "average 10 pounds" disclosure was "more effective than the other two disclosures in reducing the percentage of respondents saying that the advertised product would enable new users to achieve results similar to those portrayed by the testimonials in the advertisements" (Kastak & Mazis, 2004, p. 6). As a result, in its 2009 revision of *Guides Concerning the Use of Endorsements and Testimonials in Advertising*, which apply to all advertisements and not just those for weight loss, the FTC included new provisions to protect consumers. In regards to disclosures of typicality the Commission ruled, "In contrast to the 1980 version of the Guides – which allowed advertisers to describe unusual results in a testimonial as long as they included a disclaimer such as "results not typical" – the revised Guides no longer contain this safe harbor" (FTC, 2009). The revised guidelines note that the Commission had tested various disclosures and that none "adequately reduced the communication that the experiences depicted are generally representative" and that such disclaimers are insufficient to prevent an ad from being deceptive (FTC, 2009, p.5). The FTC, therefore, determined:

> An advertisement containing an endorsement relating the experience of one or more consumers on a central or key attribute of the product or service also will likely be interpreted as representing that the endorser's experience is representative of what consumers will generally achieve with the advertised product or service in actual, albeit variable, conditions of use. *Therefore, an advertiser should possess and rely upon adequate substantiation for this representation. If the advertiser does not have substantiation that the endorser's experience is representative of what consumers will generally achieve, the advertisement should clearly and conspicuously disclose the generally expected*

> *performance in the depicted circumstances*, and the advertiser must possess and rely on adequate substantiation for that representation (FTC, 2009, p.5)

Although it is impossible to judge the adequacy of an advertiser's substantiation when viewing an ad, it is possible to test some aspects of adherence to the 2009 revision just discussed. Specifically, by coding ads for the presence of "results may vary" claims as well as the disclosure of typical results, some insight into compliance can be inferred.

It must be noted, however, that inclusion of typical results in the presence of a "results may vary" disclosure does not necessarily indicate that the ad is not misleading. Specifically, an ad may still be misleading if it misrepresents unrealistic weight loss as typical. There are three main ways in which this may be done. First, consider advertisements without any typicality disclosures. The 2009 guidelines only necessitate disclose of typicality when a consumer testimonial's portrayal of results are not typical. If the depicted results are representative of what other consumers can expect, than the ad would not be required to state "results may vary" or to provide a disclosure of typical results. If an ad contains a consumer asserting weight loss of 50 pounds in two weeks, but does include any disclosures of typicality, than under law, the stated outcome is to be interpreted as typical. Since efficacy of over-the-counter weight loss products has not been empirically proven, however, such an advertisement is likely deceptive and would require disclosures of "results may vary" as well as the actual typical results to maintain its integrity. Second, even when both the preceding statements are disclosed, an advertisement may still be deceptive if its claim of typical results is unrealistic. Again, since over-the-counter weight loss products have not been shown to be effective in producing substantial weight loss, it is unlikely that typicality claims asserting substantial weight loss are representative, particularly in the absence of statements disclosing the

requirement for diet or exercise to lose weight. Lastly, even if an advertisement discloses both “results may vary” as well as realistic typical results, it may still qualify as deceptive if the disclosures are not clear and conspicuous.

Additionally, following the passage of DSHEA, the FDA ruled that any dietary supplement claiming to promote weight loss qualifies as making a structure-function claim and, therefore, is required by law to include the disclaimer, “This statement has not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease" on its label (FDA, 2000, p. 1002). Although DSHEA does not directly apply to advertisements, the FTC has commented that, “there are situations where such a disclosure is desirable in advertising as well as in labeling to prevent consumers from being misled about the nature of the product and the extent to which its efficacy and safety have been reviewed by regulatory authorities” (FTC, 2001, p.1). Furthermore, the FTC specified that when disclosures are necessary to avoid representation, they must be presented clearly and conspicuously. As previously mentioned in the discussion of Red Flags, the FTC is particularly concerned with conflicting statements regarding safety and efficacy. When weighing whether an advertisement is deceptive, the FTC urges individuals to consider the net impression of an ad. In the presence of conflicting statements, however, there may be several rational interpretations of an ad’s content and, therefore, it may be easier for an advertiser to defend the content of his ads. Consequently, to characterize marketing behavior, ads were coded for the following statements:

1. **Use with diet/ exercise plan**
2. **Speak with a medical professional before starting**
3. **Do not take if [health condition(s)]**
4. **This product is not intended for use by individuals under the age**

5. **Results not typical/ results may vary**
6. **These statements have not been evaluated by the FDA**

Weight Loss Claim Categorization

The Red Flag guidelines contain considerable ambiguity, particularly in regard to weight loss claim classifications. For instance, the text of the Red Flags themselves specify several different amounts of weight loss such as "two pounds or more a week for a month or more" in Red Flag 1, "substantial weight loss" in Red Flags 2, 4, 6 and 7, just "weight loss" in Red Flag 3, and "more than three pounds per week for more than four weeks" in Red Flag 5 (Beales, 2003, p.5). The central challenge is not merely that it may be difficult to keep all of these different weight classifications straight, but that the definitions, explanations, and variations given by the FTC in the Red Flag guidelines are sometimes contradictory and raise important questions regarding which types and amounts of weight claims are eligible to qualify as a Red Flag.

First, although the FTC defined "substantial weight" as "weight loss of a pound a week for more than four weeks or total weight loss of more than 15 pounds in any time period," it also highlighted that "substantial weight loss can also be suggested by references to dress sizes, inches, and body fat" and that "ads may convey this message [of substantial weight loss] without using specific numbers" (Beales, 2003, p.5). Unlike with weight claims given in pounds, however, the FTC did not specify the amount of weight loss required to qualify as substantial in non-pound units. This is problematic since alleging "I dropped 2 dress sizes in 2 days" is far more likely to be substantial and indicate deception than "I dropped 2 dress sizes in 12 months". Additionally, the FTC did not identify how substantial weight may be portrayed without using specific numbers. To

demonstrate the issue associated with this fact, consider Red Flag 4 - “Block the absorption of fat or calories, and lose substantial weight.” In the Red Flag guidelines, the FTC acknowledged that “legitimate fat blockers” exist but argued, “No fat blocker can block enough fat or calories to cause lots of weight loss” (Beales, 2003, p.13). Based on the guidelines provided, therefore, it is unclear whether a statement such as “this product blocks the absorption of fat, so you can lose weight” qualifies as deceptive.

Second, despite identifying a precise amount of weight in pounds in Red Flag 1, when describing Red Flag 1 in the guidelines, the FTC explained, “the four measurements used in weight loss ads are pounds, dress size, inches, and body fat” (Beales, 2003, p.7). The FTC, however, did not indicate the amount of weight loss in units other than pounds that would equate to the “two pounds or more per week for a month or more” requirement Beales, 2003, p.7). Moreover, many of the variations of Red Flag 1 enumerated in the guidelines do not meet the “for a month or more” specification. For instance, “lose up to 2 pounds daily without diet or exercise,” does not indicate that weight loss persists for a month or more and “Go from a size 12 to a size 6; lose inches QUICKLY, and do absolutely nothing but take this pill” does not mention any specifics regarding the period over which weight loss was achieved (Beales, 2003, p.7).

Third, Red Flag 5- “Consumers can safely lose more than three pounds per week for a period of more than four weeks” (Beales, 2003, p.15)- is the only Red Flag claim for which the FTC did not explicitly state that weight claims given in units other than pounds may be used. Additionally, although both variations of Red Flag 5 provided only weight loss in pounds, they did not precisely meet the requirements of “more than three pounds per week for a period of more than four weeks” (Beales, 2003, p.15). For instance, “You

can lose three pounds per week, naturally and without side effects" claims exactly three pounds per week and does not specify if the rate of weight loss will continue for more than four weeks (Beales, 2003, p.15). Similarly, the FTC does not indicate whether weight claims that do not specify any time periods, such as "This product causes rapid weight loss; I lost 50 pounds quickly and safely," can qualify as Red Flag 5.

Consequently, given the extent of ambiguity associated with weight loss claims, they have the potential to serve as an offsetting behavior for advertisers wishing to deceive potential consumers. Specifically, since the FTC instructed media outlet staff members to simply compare "the claims in an ad with the claims on our list" (Swindle, 2003), in order to avoid scrutiny, advertisers may choose not to make weight claims in pounds or specify a specific period over which weight loss purportedly achieved. Conversely, since the FTC and media outlets are focused on Red Flag claims as a means of identifying deception, advertisers may choose to make lofty weight loss claims without using any Red Flag jargon. For instance, the statement "With this product you can lose up to 10 pounds a week" is likely deceptive, but it would not qualify as such using the definitions provided by the Red Flag guidelines.

Consequently, in order to comprehensively characterize the industry's marketing behavior, it was necessary to collected detailed information on the types of weight loss claims made in ads. To accomplish this task, I recorded the amount, unit, and duration of weight loss alleged in each ad. Specifically, for each advertisement, I recorded whether a weight claim was made; this captured both non-numeric and numeric weight claims. Non-numeric weight claims were defined as either verbal weight loss representations without numbers such as "I lost lots of weight quickly" or visual, such as the use of

before-and-after images. Numeric weight claims were defined as those specifying the amount of weight loss. For numeric weight claims, I recorded the amount, unit, and duration over which weight loss was achieved. Possible values for the unit of weight loss included "pounds," "inches," "clothing sizes" and "other". The "other" category includes claims that do not fit under one of the other three such as "I lost 10% of my body weight in 4 weeks." To standardize the duration of weight loss, time periods were converted into days, where weeks and months were assumed to have 7 and 30 days respectively. If no time period was given, this field was left blank. This information was collected for "typical results" claims as well as for up to six other weight claims made in the course of the advertisement (if more than six weight claims appeared, only the first six were recorded). The distinction between "typical result" and other weight claims was made due to the 2009 change to the *Guides Concerning the Use of Endorsements and Testimonials in Advertising* previously noted.

My finding, as shown in Tables 6 and 7 indicate that the majority of ads across both media types included some sort of weight claim, with 95.08% of print and 87.32% of TV ads containing at least one claim. Of the print ads with weight claims, 8.26% included weight claims made solely in pounds, 47.81% included weight claims made solely in units other than pounds, and 43.94% included weight claims in pounds as well as in other units. Similarly, of the TV ads that included a weight loss claim, 0.48% included only claim in pounds, 27.81% included only weight claims in units other than pounds, and 71.70% of ads included claims in pounds as well as other units.

Table 6: Weight Claim Unit Types in Print Ads

Weight Claim Unit Type	N	Percent All Ads	Percent Ads With Weight Claim
Pounds only	190	7.85%	8.26%
Unit other than pounds only	1,100	45.45%	47.81%
Pounds and non-pounds	1,011	41.78%	43.94%

Note: 95.08% of the 2,420 print ads contained at least one weight claim

Table 7: Weight Claim Unit Types in TV Ads

Weight Claim Unit Type	N	Percent All Ads	Percent Ads With Weight Claim
Pounds only	1,897	0.42%	0.48%
Unit other than pounds only	108,981	24.28%	27.81%
Pounds and non-pounds	280,983	62.61%	71.70%

Note: 87.32% of the 448,777 TV ads contained at least one weight claim

Since weight claims in ads commonly appeared in pound and non-pound units, it is necessary to develop a method of classification. Using the definitions of unsubstantial, substantial, and unsafe weight loss previously discussed and based on the FTC's guidelines, Tables 8 and 9 show the distribution of weight classifications for print and TV ads, respectively. In print, the vast majority of advertisements that included a weight claim made one that qualifies as substantial (98.91%) or unsafe (79.06%). Only 1.09% of ads made an unsubstantial weight claim. Similarly, in TV, nearly all ads (99.98%) that included a weight claim made one that qualifies as substantial and just under half (45.72%) made one categorized as unsafe.

As discussed, the FTC has provided its most explicit guidelines regarding weight claim classifications for claims given in pounds. As seen in Tables 8 and 9, in both print and TV, a little over half of ads were categorized as substantial due to claims made in pounds (51.02% and 46.43% respectively), meaning that they asserted weight loss of one

or more pounds per week or 15 or more pounds overall. The remaining portion qualify as substantial due to the presence of a weight claim in a unit other than pounds. Similarly, print and TV ads contained unsafe weight claims in pounds 34.92% and 22.80% of the time respectively, meaning that they claimed the loss of 3 or more pounds per week or 15 or more pounds quickly.

Table 8: Weight Claim Classification in Print Ads

Weight Claim Categorization	N	Percent of All Ads	Percent of Ads with Weight Claims
Unsubstantial weight loss	25	1.03%	1.09%
Substantial weight loss	2,276	94.05%	98.91%
In pounds	1,174	48.51%	51.02%
In a unit, other than pounds only	1,102	45.54%	47.89%
Unsafe weight loss	1,612	66.61%	70.06%
In pounds	845	34.92%	36.72%
In a unit, other than pounds only	767	31.69%	33.33%

Note: 2,301 (95.08%) of all ads contained a weight claim. 0.18% (2) of ads classified as "substantial weight loss in a unit other than pounds only" contained an unsubstantial weight claim in pounds. Similarly, 3.39% (26) of ads classified as "unsafe weight loss in a unit other than pounds only" contained a weight claim in pounds that was not classified as "unsafe"

Table 9: Weight Claim Classification in TV Ads

Weight Claim Categorization	N	Percent of All Ads	Percent of Ads with Weight Claims
Unsubstantial weight loss	94	12.70%	0.02%
Substantial weight loss	391,767	87.30%	99.98%
In pounds	221,112	49.27%	56.43%
In a unit, other than pounds only	170,655	38.03%	43.55%
Unsafe weight loss	179,171	39.92%	45.72%
In pounds	102,303	22.80%	26.11%
In a unit, other than pounds only	76,868	17.13%	19.62%

Note: 56,916 (87.32%) of all ads contained a weight claim. 36.15% (61,674) of ads classified as "substantial weight loss in a unit other than pounds only" contained an unsubstantial weight claim in pounds; 72.56% (55,772) classified as "unsafe weight loss in a unit other than pounds only" contained a weight claim in pounds that was not classified as "unsafe".

Since the FTC did not explicitly include the latter in its definition of unsafe or in its examples of Red Flag 5, Tables 10 and 11 show the breakdown of substantial and unsafe weight claims in pounds when duration of weight loss is and is not included. It is important to note that an advertisement with that contained a substantial or unsafe weight claim in a unit other than pounds may still contain an unsubstantial or "safe" weight claim in pounds. For instance, 36.15% of TV ads qualifying as "substantial weight loss in a unit other than pounds only" contained a non-substantial weight claim in pounds.

Table 10: Weight Claim Classification in Print Ads when Given in Pounds

Weight Claim Categorization	N	Percent of All Ads	Percent of Ads with Weight Claim in Pounds
Unsubstantial Weight Loss	27	1.12%	2.25%
Substantial Weight Loss	1,174	48.51%	97.75%
One or more pounds per week	1,013	41.86%	84.35%
Over 15 pounds overall only	161	6.65%	13.41%
Unsafe weight loss	845	34.92%	70.36%
Three or more pounds per week	154	6.36%	12.82%
Over 15 pounds quickly only	691	28.55%	57.54%

Note: There were 1,201 print ads that contained a weight claim in pounds

Table 11: Weight Claim Classification in TV Ads when Given in Pounds

Weight Claim Categorization	N	Percent of All Ads	Percent of Ads with Weight Claim in Pounds
Unsubstantial Weight Loss	61,768	13.76%	16.09%
Substantial Weight Loss	221,112	49.27%	57.60%
One or more pounds per week	148,550	33.10%	38.70%
Over 15 pounds overall only	72,562	16.17%	18.90%
Unsafe weight loss	102,303	22.80%	26.65%
Three or more pounds per week	65,784	14.66%	17.14%
Over 15 pounds quickly only	36,519	8.14%	9.51%

Note: There were 282,880 TV print ads that contained a weight claim in pounds

When weight claims were made in pounds, the duration over which weight loss was purportedly achieved is not always disclosed. In print, of the 1,201 ads that made weight loss claims in pounds, 76.60% of ads specified the duration of weight loss for each claim, 13.24% never specified the duration, and 10.16% did for some weight claims but not for others. In TV, of the 282,880 ads that made at least one weight loss claim in pounds, 58.47% always specified duration, 25.65% never specified duration, and 15.88% did for some weight claims, but not for others.

For print and TV ads with weight claims made in pounds over a specific duration of time, Figures 12 and 13 depict the rate of weight loss claimed in terms of pounds lost per week. If more than one such weight claim was made in an ad, the maximum rate of weight loss was recorded. In print, the mean and median number of pounds lost per week was 2.50 (s.d. = 1.63) and 2.22 respectively. In TV, the mean and median was 1.99 (s.d. = 1.11) and 1.94 respectively. Conversely, Figures 14 and 15 show the maximum number of pounds lost per advertisement for ads making at least one weight claim in pounds, regardless of whether a timeframe was included. Weight loss in pounds ranged from 1 to 365 pounds in print and from 4 to 140 pounds in TV. The mean number of pounds reported to have been lost was 31.96 (s.d.= 20.43) in print and 31.50 (s.d. = 20.67) in TV.

Figure 12: Maximum Number of Pounds Lost per Week in Print Ads

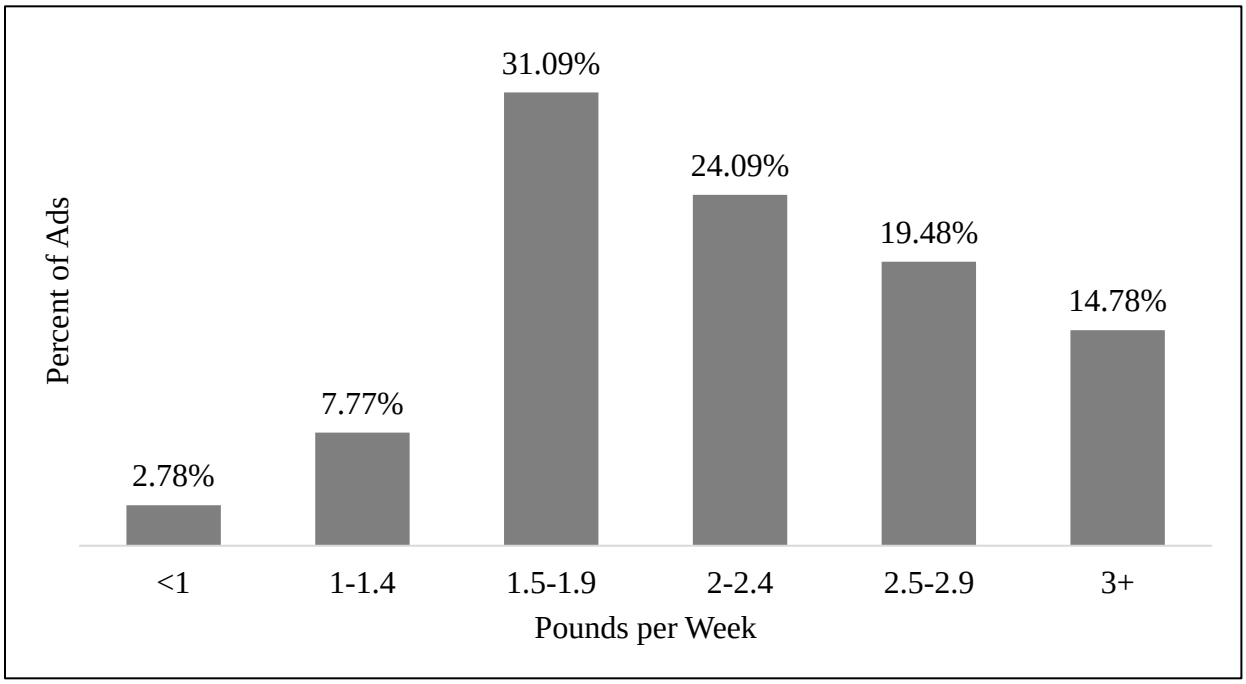


Figure 13: Maximum Number of Pounds Lost per Week in TV Ads

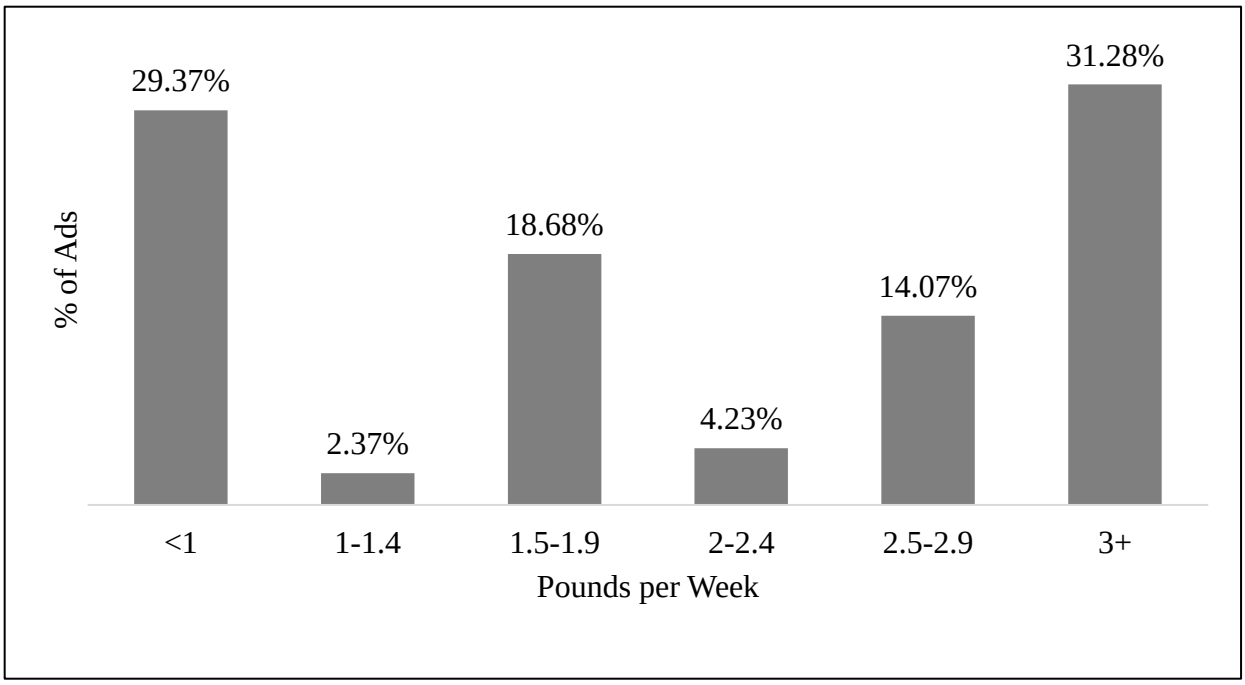


Figure 14: Maximum Number of Pounds Lost in Print Ads, Regardless of Time

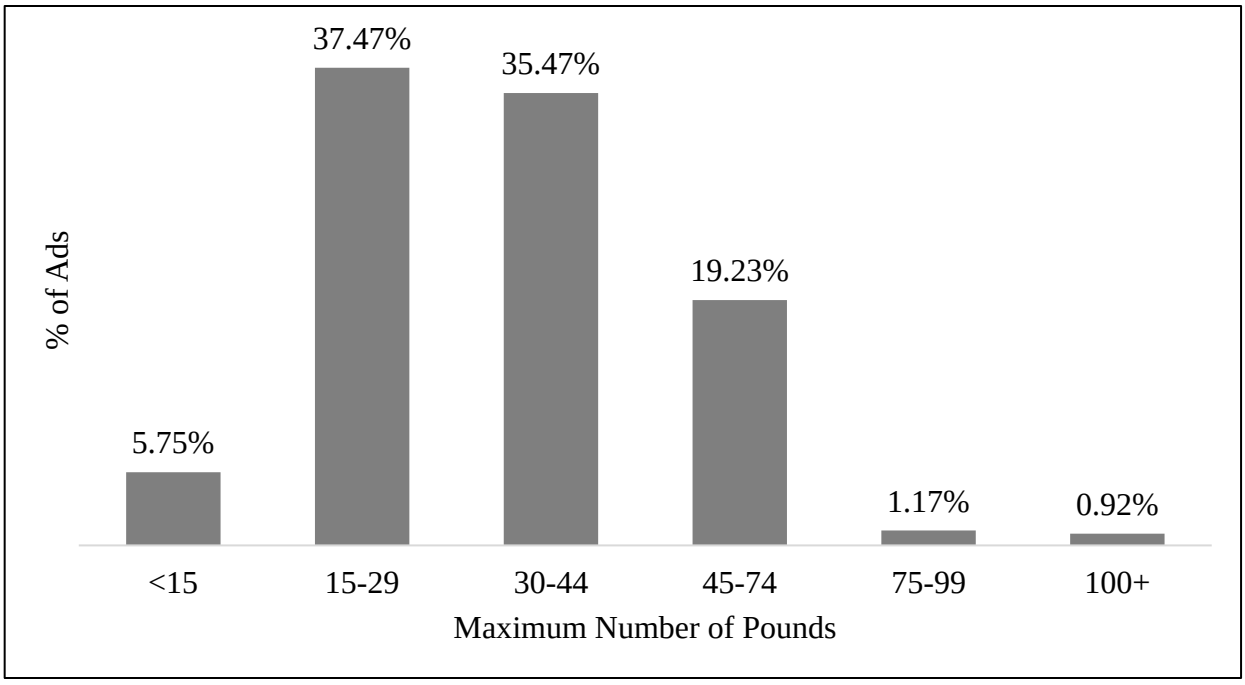
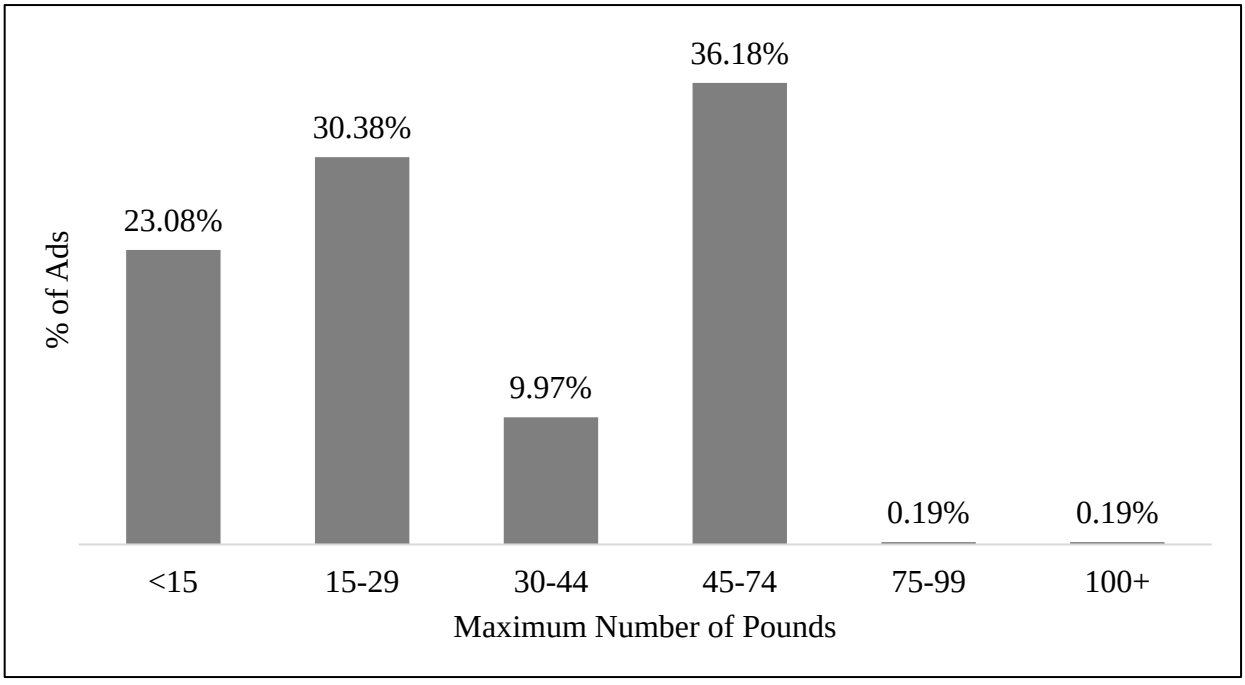


Figure 15: Maximum Number of Pounds Lost in TV Ads, Regardless of Time



CHAPTER SIX: RESULTS

Prevalence of Red Flag Claims

The primary research question of this study is to determine whether the FTC's 2003 voluntary guidelines were effective in reducing the prevalence of deception, measured by the presence of Red Flag claims. Both the FTC and independent researchers have previously attempted to evaluate the Red Flag initiative and concluded that there had been a significant decline in the prevalence of Red Flags following the launch of the Red Flag initiative. The large number of ads in my sample, my focus on a post-initiative period taking place several years after implementation (2010-2011), and my development of explicit and implicit measures of Red Flag claims enable me to conduct a more accurate assessment of the voluntary screening guidelines as a long-term solution to deceptive weight loss advertisements. Tables 12 and 13 report the prevalence of Red Flag claims in print and TV ad airings respectively.

The findings indicate that the prevalence of Red Flag claims remains high. When using both implicit and explicit definitions of Red Flag claims, 94% of print ads and 99% of TV ads were found to contain at least one deceptive statement. Of those with at least one Red Flag, the mean number of statements per ad was 3.00 (s.d. = 0.97) in print and 2.05 (s.d. = 1.07) in TV. Red Flag 1 was the most prevalent statement among print ad airings (90%) and Red Flag 4 was most common in TV ads airings (59%) when using the broad definition of Red Flags. Conversely, Red Flag 7 was the least prevalent claim in both media types, appearing in 0 print ads and just 0.01% of TV ads.

In terms of explicit Red Flag claims, which are the most conservative measure of deception, 30% of print and 17% of TV ad airings were found to contain at least one

prohibited statement. In ads that included at least one explicit Red Flag claim, the mean number of explicit Red Flag claims was 1.47 (s.d.= 0.93) in print and 2.54 (s.d.= 0.81) in TV. The most common explicit Red Flag was Red Flag 6 in both print (20%) and TV (16%). Again, Red Flag 7 was the least prevalent statement.

Table 12: Prevalence of Explicit, Implicit and Total Red Flags in Print Ads

Red Flag Claims	**N**	**Percent**
Total Red Flag 1	2,172	89.75%
Explicit	138	5.70%
Implicit Only	2,034	84.05%
Total Red Flag 2	144	5.95%
Total Red Flag 3	112	4.63%
Total Red Flag 4	1,481	61.20%
Explicit	82	3.39%
Implicit Only	1,399	57.81%
Total Red Flag 5	1,134	46.86%
Explicit	85	3.51%
Implicit Only	1,049	43.35%
Total Red Flag 6	1,794	74.13%
Explicit	487	20.12%
Implicit Only	1,307	54.01%
Total Red Flag 7	0	0.00%
Ads with One or More Red Flags	**2,276**	**94.05%**
Explicit	714	29.50%
Implicit Only	1,562	64.55%

Note: There were a total of 2,420 print ad airings. Of the ads containing at least one explicit Red Flag claim, the mean number of explicit Red Flag claims per ad was 1.47 (s.d.= 0.93). For advertisements containing either an explicit or implicit Red Flag claim, the mean number of claims per ad was 3.00 (s.d. = 0.97).

Table 13: Prevalence of Explicit, Implicit and Total Red Flags in TV Ads

Red Flag Claims	**N**	**Percent**
Total Red Flag 1	226,160	50.39%
Explicit	62,266	13.87%
Implicit Only	163,894	36.52%
Total Red Flag 2	1,478	0.33%
Total Red Flag 3	1,104	0.25%
Total Red Flag 4	263,444	58.70%
Explicit	168	0.04%
Implicit Only	263,440	58.70%
Total Red Flag 5	174,150	38.81%
Explicit	56,919	12.68%
Implicit Only	117,231	26.12%
Total Red Flag 6	238,552	53.16%
Explicit	73,430	16.36%
Implicit Only	165,122	36.79%
Total Red Flag 7	29	0.01%
Ads with One or More Red Flags	**442,324**	**98.56%**
Explicit	77,057	17.17%
Implicit Only	365,267	81.39%

Note: There were a total of 448,777 TV ad airings. Of the ads containing at least one explicit Red Flag claim, the mean number of explicit Red Flag claims per ad was 2.54 (s.d.= 0.81). For advertisements containing either an explicit or implicit Red Flag claim, the mean number of claims per ad was 2.05 (s.d. = 1.07).

As noted, the explicit definitions of Red Flags used in this thesis were derived from the definitions and examples given in the Red Flag guidelines. If instead, the Red Flags themselves are used to define deception, the findings paint a very different picture (Tables 14 and 15). This is noteworthy since the Red Flags, rather than their descriptions, may have been the primary tool on which media relied to review ads. When promoting Red Flag screening efforts, the FTC described the process as "simply comparing the claims in an ad with the claims on our list" (Swindle, 2003). While most individuals may not have taken this to mean that advertisements had to contain the exact phrasing of a

Red Flag to qualify as deceptive, it is likely that many assumed the various amounts of weight loss specified in each Red Flag to be a central component of its definition. As careful evaluation of the guidelines reveals, however, this is not the case. For instance, in regard to the Red Flag 1 ("lose two pounds or more for a month or more without dieting or exercise"), the FTC wrote in the guidelines, "A claim is false if it says or suggests that users can lose weight fast without changing their lifestyles, even if the ad doesn't mention specific amount of weight loss or time periods. The four measurements used in weight loss ads are pounds, dress sizes, inches, and body fat, any of which can be used to convey the message of substantial weight loss" (Beales, 2003, p.7). Moreover, although the FTC clarified that deceptive weight claims may be portrayed in units other than pounds, it did not define numerical thresholds for these alternative units. Since media staff may not have the time to carefully read the guidelines cover-to-cover, they may fail to adequately understand the nuances of each Red Flag's definition. Alternatively, outlets may choose to adhere to the verbatim definitions since there may be uncertainty as to whether an ad qualifies as deceptive and refusing to publish an ad causes a direct loss of revenue.

Tables 14 and 15, show the prevalence of explicit Red Flags when the definition is restricted to only include ads that also contained the associated weight loss claim in pounds ("verbatim" Red Flags). Specifically, to qualify as verbatim Red Flag 1, an ad must meet the explicit definition as well as include a weight loss claim of two or more pounds per week for a month (30 days) or more. For verbatim Red Flag 5, the advertisement must meet the explicit definition and claim weight loss of more than three pounds per week for a period of more than four weeks (28 days). Since the other Red

Flag claims do not specify specific rates of weight loss, the guideline's definition of "substantial weight" is used. Since it does not provide thresholds for any unit other than pounds, to qualify as verbatim Red Flag 2, 3, 4, 6, or 7, an ad must claim weight loss of a pound or more a week for more than four weeks (28 days) or 15 or more pounds overall.

Table 14: Prevalence of Verbatim Red Flags in Print Ads

Red Flag Claim	N	Percent of All Ads	Percent of Total Red Flags	Percent of Explicit Red Flags
Causes weight loss of two pounds or more a week for a month, or more without dieting or exercise.	39	1.61%	1.80%	28.26%
Causes substantial weight loss, no matter what or how much the consumer eats.	132	5.45%	91.67%	91.67%
Causes permanent weight loss (even when the consumer stops using the product).	83	3.43%	74.11%	74.11%
Blocks the absorption of fat or calories to enable consumers to lose substantial weight.	30	1.24%	2.03%	36.59%
Safely enables consumers to lose more than three pounds per week for more than four weeks.	34	1.40%	3.00%	40.00%
Causes substantial weight loss for all users.	194	8.02%	10.81%	39.84%
Causes substantial weight loss by wearing it on the body or rubbing it into the skin.	0	0.00%	-	-
Ads with one or more explicit Red Flag meeting weight qualification in pounds	**337**	**13.93%**	**14.81%**	**47.20%**

Note: Of the 194 ad airings that contained at least one explicit Red Flag with the associated weight loss claim, the average number of claims per ad was 1.52 (s.d. = 1.09).

Table 15: Prevalence of Verbatim Red Flags in TV Ads

Red Flag Claim	N	Percent of All Ads	Percent of Total Red Flags	Percent of Explicit Red Flags
Causes weight loss of two pounds or more a week for a month, or more without dieting or exercise.	406	0.09%	0.18%	0.65%
Causes substantial weight loss, no matter what or how much the consumer eats.	1,192	0.27%	80.65%	80.65%
Causes permanent weight loss (even when the consumer stops using the product).	970	0.22%	87.86%	87.86%
Blocks the absorption of fat or calories to enable consumers to lose substantial weight.	0	0.00%	0.00%	0.00%
Safely enables consumers to lose more than three pounds per week for more than four weeks.	8	0.00%	0.00%	0.01%
Causes substantial weight loss for all users.	7,350	1.64%	3.08%	10.01%
Causes substantial weight loss by wearing it on the body or rubbing it into the skin.	29	0.01%	100.00%	100.00%
Ads with one or more explicit Red Flag meeting weight qualification in pounds	**9,527**	**2.12%**	**2.15%**	**12.36%**

Note: Of the 9,537 ad airings that contained at least one explicit Red Flag with an associated weight loss claim, the average number of claims per ad was 1.04 (s.d. = 0.26).

The results indicate that few ads contained verbatim Red Flags and that these claims made up only a fraction of those categorized as explicit Red Flags or total Red Flags (explicit and implicit). In print, just 14% of ads contained a verbatim Red Flag, compared 30% and 94% with explicit and total Red Flags, respectively. In TV, 2.12% of ads contained verbatim Red Flag, compared 17% and 90% with explicit and total Red Flags, respectively.

Media Outlet Screening of Explicit Red Flags

When promoting implementation of the Red Flag guidelines, the FTC sought the assistance of media outlets such as magazine publishers and TV networks, since they represent the level at which advertisement screening could take place (Swindle, 2003). When evaluating the Red Flag initiative, therefore, it is critical to characterize the behavior of magazine publications as well as TV networks. Since outlets were instructed to adhere to the Red Flag guidelines, I only consider explicit Red Flags in this portion of my analysis.

In print, 46 (76.67%) of the 60 publications that disseminated at least one ad for a product covered by the FTC's guidelines published an ad that contained an explicit Red Flag. The top offenders that published the greatest number of ads containing explicit Red Flags were OK Weekly (11.48%), Star (10.08%), National Enquirer (8.12%), Woman's World (7.84%) and First for Women (6.86%). The 20 magazines that published the greatest number of ads containing explicit Red Flag claims may be found in Appendix C.1. It is clear from the results that there is a direct association between the number of total weight loss advertisements and the number of explicit Red Flag weight loss advertisements; the top 20 publication were responsible for the dissemination of 86.82% of all ads and 88.24% of explicit Red Flag ads.

Of the 28 magazines that published 10 or more FTC-covered weight loss ads, 26 (82.86%) published at least one ad that contained an explicit Red Flag. As shown in Table 16, of these magazines, the mean percent of each magazine's ads that contained an explicit Red Flag was 33.82% overall and 36.42% conditional on having at least one explicit Red Flag ad; the median was 32.78% overall and 33.40% conditional on one

explicit Red Flag ad. Since the prevalence of explicit Red Flag ads was 28.57% when the sample was restricted to just magazines with 10 or more weight loss advertisements, these results indicate that, overall, there was minimal variation in the proportion of each magazine's ads that contained an explicit Red Flag. Consequently, with the exception of Bridal Guide and Men's Health- which both published 10 or more ads and none with explicit Red Flags- it would be difficult to argue that some magazines fully adopted the FTC' screening guidelines while others did not. For most magazines, about a third of their weight loss ads contained an explicit Red Flag.

Table 16: Print Magazine Explicit Red Flag Screening

Measure of Explicit Red Flag	All Mags		Mags 10 or more ads	
	N	Unit	N	Unit
Mean number explicit Red Flags ads	60	11.9	28	23.39
Mean number explicit Red Flags ads, conditional on one	46	15.52	26	25.19
Median number of explicit Red Flag ads	60	4	28	14
Median number explicit Red Flag ads, conditional on one	46	6	26	16.5
Mean percent of ads with an explicit Red Flag	60	39.09%	28	33.82%
Mean percent of ads with an explicit Red Flag, conditional on one	46	50.99%	26	36.42%
Median percent of ads with an explicit Red Flag	60	33.33%	28	32.78%
Median percent of ads with an explicit Red Flag, conditional on one	46	47.92%	26	33.40%

Note: 48 of the total 60 (76.67%) magazines published at least one ad that contained an Explicit Red Flag. Of the 28 magazines that published 10 or more FTC-covered weight loss ads, 26 (82.86%) published at least one ad that contained an explicit Red Flag.

TV networks exhibited similar behavior. Specifically, 855 of the total 1,018 (83.99%) networks published at least one ad that contained an explicit Red Flag. The top offenders included WLMT (3.88%), WNYA (3.12%), WCWG (2.36%), MTVC (2.35%), and WNLO (2.30%). The 20 TV networks that published the greatest number of ads containing explicit Red Flag claims can be found in Appendix C.2. Of the 914 networks that published 100 or more FTC-covered weight loss ads, 790 (86.43%) published at least one ad that contained an explicit Red Flag, and the same was true of 100% of the networks that aired 1,000 or more weight loss ads. Interestingly, only two of the 131 (1.50%) networks that ran 700 or more weight loss ads did not air any that contained an explicit Red Flag. These networks were NAN and OXYG, which ran ads for seven and four different weight loss brands respectively. The prevalence of explicit Red Flag claims per network is skewed right since, as shown in Table 17.

Table 17: TV Network Explicit Red Flag Screening

Measure of Explicit Red Flag	All Networks		Network 100 or More Ads		Network 1000 or More Ads All Networks	
	N	Unit	N	Unit	N	Unit
Mean number explicit Red Flags ads	1,018	75.69	914	83.61	76	556.89
Mean number explicit Red Flags ads, conditional on one	855	90.13	790	96.74	76	556.89
Median number of explicit Red Flag ads	1,018	12	914	16	76	269.5
Median number explicit Red Flag ads, conditional on one	855	20	790	24	76	269.5
Mean percent of ads with an explicit Red Flag	1,018	12.17%	914	11.80%	76	28.58%
Mean percent of ads with an explicit Red Flag, conditional on one	855	14.49%	790	13.65%	76	28.58%
Median percent of ads with an explicit Red Flag	1,018	4.63%	914	4.72%	76	15.97%
Median percent of ads with an explicit Red Flag, conditional on one	855	7.19%	790	6.84%	76	15.97%

Note: 855 of the total 1,018 (83.99%) networks published at least one ad that contained an explicit Red Flag. Of the 914 networks that published 100 or more FTC-covered weight loss ads, 790 (86.43%) published at least one ad that contained an Explicit Red Flag. 100% of the networks that aired 1,000 or more weight loss ads published one or more that contained an explicit Red Flag.

The results shown in Tables 16 and 17 indicate that the prevalence of ads with explicit Red Flag claims was largely due to the marketing decisions of advertisers rather than media screening efforts. Importantly, the distribution of ads with explicit Red Flags was highly concentrated among particular brands. In print, 52 of the 87 brands (60%) published at least one advertisement that contained an explicit Red Flag, but just five brands- Fastin (25%), Sensa (13%), Mulberry (10%), Lichi Superfruit (8%), and Relacore (7%)- accounted for 63% of all explicit Red Flag ad airings. Similarly, in TV, 36 of the 59 brands (61%) published at least one advertisement that contained an explicit Red Flag

claim, but just five brands- Lipozene (74%), Xenadrine (8%), Centrilean (4%), Jillian Michaels (4%) and Zylotrim (3%) -accounted for 94% of all TV ad airings that contained an explicit Red Flag claim. The full list of brands, for both print and TV, that disseminated or more ads containing at least an explicit Red Flag claim can be found in Appendixes C.3 and C.4.

Indications of Offsetting Behaviors

Potentially Deceptive Characteristics and Weight Loss Claims

In addition to using lofty weight loss claims or implicit rather than explicit Red Flags in their ads, some advertisers implemented other behaviors in order to deceive consumers and remain undetected. For instance, although the FTC identified a list of potentially deceptive characteristics it said should raise questions regarding the veracity of claim in weight loss ads in its 2002 *Report on Weight Loss Advertising: An Analysis of Current Trends*, little pressure has been placed on media outlets to screen for these characteristics or put on advertisers not to use the elements in their ads. Moreover, attention shifted away from these ad elements little more than a year later with the advent of the Red Flag claims. Consequently, unlike the Red Flag claims, these characteristics likely signal that an ad may be misleading, but have not been the subject of major enforcement, screening, or education efforts by the FTC. As a result, use of these elements may represent offsetting behaviors on the part of advertisers, particularly when they are used in combination with substantial or unsafe weight loss claims.

The results in Tables 18 and 19 indicate that the use of potentially deceptive characteristics was widespread, appearing in 96% of both print and TV ad airings. Of the

ads that contained at least one potentially deceptive characteristic, the mean number of characteristics per ad was 2.74 (s.d. = 1.29) in print and 2.66 (s.d. = 1.59) in TV. The most common potentially deceptive characteristic in print was the claim that dramatic, fast results are common, which appeared in 68% of ads. In TV, the use of before-and-after photos was the most common potentially deceptive characteristic, appearing in 77% of ads. In print, the least common potentially deceptive characteristic was the claim that a product was "risk-free," which appeared in only 6% of ads. In TV, the least common potentially deceptive characteristic was the claim that a product was "all-natural," which appeared in just 1% of advertisements.

Moreover, the majority of ads that contained potentially deceptive characteristics were not captured by explicit Red Flag claims. Specifically, just 30% of print ad airings and 18% of TV ad airings that contained one or more potentially deceptive characteristics also contained an explicit Red Flag claim. In print, the potentially deceptive claim that a product was "clinically proven" was least likely to also contain an explicit Red Flag claim; of ads that contained this characteristic, just 20% also contained an explicit Red Flag. Similarly, in TV, of the advertisements that depicted a physician's endorsement, just 5% also contained an explicit Red Flag.

Table 18: Prevalence of Potentially Deceptive Characteristics in Print Ads and the Percent Captured by Explicit Red Flags

Potentially Deceptive Characteristics	Of Total Ads		Captured by Explicit Red Flags	
	N	Percent	N	Percent
Personal testimonials	1,146	47.36%	338	29.49%
Before/after photos of people/body parts	814	33.64%	201	24.69%
Physician/doctor endorsement for the product	650	26.86%	341	52.46%
Product is clinically proven/lab tested to work	1,428	59.01%	282	19.75%
Product is "all natural"	172	7.11%	82	47.66%
Product is "risk free"	137	5.66%	110	80.31%
Product has guaranteed results/money back guarantee	386	15.95%	158	40.93%
Dramatic/immediate results not uncommon	1,635	67.56%	575	35.17%
Ads with at least one potentially deceptive statement	**2,320**	**95.87%**	**701**	**30.22%**

Note: There were 2,420 advertisement airings. The mean number of potentially deceptive characteristics per ad airing was 2.63 (s.d.= 1.37) overall, and 2.74 (s.d. = 1.29) conditional on containing at least one potentially deceptive statement.

Table 19: Prevalence of Potentially Deceptive Characteristics in TV Ads and the Percent Captured by Explicit Red Flags

Potentially Deceptive Characteristics	Of Total Ads		Captured by Explicit Red Flags	
	N	Percent	N	Percent
Personal testimonials	155,458	34.64%	8,461	5.44%
Before/after photos of people/body parts	345,208	76.92%	41,154	11.92%
Physician/doctor endorsement for the product	92,363	20.58%	4,334	4.69%
Product is clinically proven/lab tested to work	239,703	53.41%	71,422	29.80%
Product is "all natural"	2,668	0.59%	1,529	57.31%
Product is "risk free"	81,916	18.25%	60,175	73.46%
Product has guaranteed results/money back guarantee	62,034	13.82%	44,408	71.59%
Dramatic/immediate results not uncommon	162,435	36.20%	67,620	41.63%
Ads with at least one potentially deceptive statement	**429,173**	**95.63%**	**76,883**	**17.91%**

Note: There were 448,777 advertisement airings. The mean number of potentially deceptive characteristics per ad airing was 2.54 (s.d.= 1.65) overall, and 2.66 (s.d. = 1.59) conditional on containing at least one potentially deceptive characteristic.

The FTC has long been concerned with the prevalence of unsubstantiated weight loss claims made in advertisements (Anthony, 2002). Specifically, the FTC has found that consumers are likely to perceive weight claims made in advertisements as conveying typical results associated with product use, regardless of the inclusion of certain disclaimers (Hastak & Mazis, 2004). Although some advertisements included weight claims that stated typical results, these claims often lack credibility or fail to be clear and conspicuous (Cleland et al, 2002). As a result, advertisements that contain both a

potentially deceptive characteristic as well as a substantial or unsafe weight loss claim, are highly likely to be misleading.

Tables 20 and 21 show the prevalence of advertisements that contained a potentially deceptive characteristic in combination with each weight classification. The tables also report the proportion of each pairing that also contained an explicit Red Flag claim. While 92% of print and 87% of TV ad airings contained both a potentially deceptive characteristic and a substantial weight loss claim, just 32% of these ads in print and 20% in TV also contained an explicit Red Flag claim. In other words, 68% of print ads and 80% of TV ads that contained both a potentially deceptive characteristic and a substantial weight loss claim, would fail to be qualified as deceptive under the explicit definition of Red Flags. Similarly, 66% of print and 40% of TV ads contained both a potentially deceptive characteristic and an unsafe weight loss claim. Just 37% of print and 38% of TV ads with these elements, however, were classified as deceptive under explicit Red Flags. The proportion with Red Flags was lowest for weight claims made in pounds. For instance, just 36% of print and 8% of TV ads containing both a potentially deceptive characteristic and an unsafe weight loss claim in pounds also contained an explicit Red Flag claim.

Table 20: Prevalence of Potentially Deceptive Characteristics by Weight Claim Classification in Print Ads and the Percent Captured by Explicit Red Flags

Potentially Deceptive Characteristics & Weight Claim Classifications	Of All Ads		With Explicit Red Flags	
	N	Percent	N	Percent
Potentially deceptive & unsubstantial weight claim	25	1.03%	0	0.00%
Potentially deceptive & substantial weight claim	2,218	91.65%	701	31.61%
Substantial in pounds	1,169	48.31%	366	31.31%
Substantial in a unit other than pounds only	1,049	43.35%	335	31.94%
Potentially deceptive & unsafe weight claim	1,607	66.40%	588	36.59%
Unsafe in pounds	840	34.71%	301	35.83%
Unsafe in a unit other than pounds only	767	31.69%	287	37.42%

Table 21: Prevalence of Potentially Deceptive Characteristics by Weight Claim Classification in TV Ads and the Percent Captured by Explicit Red Flags

Potentially Deceptive Characteristics & Weight Claim Classifications	Of All Ads		With Explicit Red Flags	
	N	Percent	N	Percent
Potentially deceptive & unsubstantial weight claim	94	0.02%	0	0.00%
Potentially deceptive & substantial weight claim	391,593	87.26%	76,883	19.63%
Substantial in pounds	221,112	49.27%	10,662	4.82%
Substantial in a unit other than pounds only	170,481	37.99%	66,221	38.84%
Potentially deceptive & unsafe weight claim	179,171	39.92%	68,267	38.10%
Unsafe in pounds	102,303	22.80%	80,54	7.87%
Unsafe in a unit other than pounds only	76,868	17.13%	60,213	78.33%

Product Disclaimers

As shown in Tables 22 and 23, product disclaimers were common in both print and TV ad airings. Specifically, 60.50% of all print and 84.64% of all TV ads contained one or more disclaimers. The mean number of disclaimers in ads that had at least one product disclaimer was 1.99 (s.d.= 1.17) in print ads and 2.40 (s.d.= 1.04) in TV ads. The prevalence of certain disclaimers varied considerably between the print and TV samples. For instance, a disclaimer instructing consumers to use the advertised product with a diet

and exercise plan was nearly twice as likely to appear in a TV ad (79.04%) than a print ad (41.07%). Similarly, while 80.95% of TV ads stated that the advertised product claims had not been evaluated by the FDA, the same was true of just 38.48% of print ads. Conversely, very few ads in either type of media warned consumers not to take the advertised product if they had certain health conditions. Such a statement was made in just 1.36% of print and 1.89% of TV ad airings.

In terms of ads with explicit Red Flag claims, disclaimers were considerably more prevalent in print (59.52%) than TV (33.64%) ad airings. In other words, while roughly the same proportion of all ads and explicit Red Flag ads contained a product disclaimer in the print dataset, explicit Red Flag ads were far less likely than all ads to contain a product disclaimer in the TV dataset. Of explicit Red Flag ads with at least one product disclaimer, the mean number of disclaimers per ad was 2.39 (s.d=1.04) in print and 3.30 (s.d.=1.58) in TV ads. This shows that the mean number of disclaimers per ad with at least one disclaimer was higher among explicit Red Flag ads than total ads in both datasets. There was variability in the rates of some disclaimers by all ad airings versus explicit Red Flag ad airings. For instance, 17.48% of all ads and 29.55% of explicit Red Flag ads contained the disclaimer "Speak with a medical professional before starting" in the print dataset. Similarly, 1.89% of all ads and 10.63% of explicit Red Flag ads contained the disclaimer "Do not take if [health condition]" in the TV dataset. In print, five of the six disclaimers were more prevalent in all explicit Red Flag ads than in all ads. The disclaimer for which the opposite was true was "Use with a diet/ exercise plan," which appeared in 41.07% of all ads and 25.07% of explicit Red Flag ads in the print dataset. In the TV dataset, three of the six disclaimers had a higher prevalence among

explicit Red Flag ads than all ad airnings. There were also some notable differences between media types. The disclaimer, "These statements have not been evaluated by the FDA" appeared in 57.28% of print Red Flag ads but just 19.82% of TV Red Flag ads. Conversely, some disclaimers were found equally across media types. For instance, "use with diet/ exercise plan" was included in 25.07% of print and 27.97% of TV ads with explicit Red Flag claims. The disclaimer "This product is not for use by individuals under 18 years of age" was the least common disclaimer among ads with explicit Red Flag claims in both datasets, appearing in 1.82% of print and 6.60% of TV ads.

Table 22: Prevalence of Product Disclaimers in all Print Ads and Explicit Red Flag Print Ads

Product Disclaimers	**All Ads**		**Explicit Red Flag Ads**	
	N	**Percent**	**N**	**Percent**
Use with diet/ exercise plan	994	41.07%	179	25.07%
Speak with a medical professional before starting	423	17.48%	211	29.55%
Do not take if [health condition]	33	1.36%	23	3.22%
This product is not for use by individuals under 18 years of age	43	1.78%	13	1.82%
Results not typical/ may vary	485	20.04%	182	25.49%
These statements have not been evaluated by the FDA	940	38.84%	409	57.28%
Percent of ads with one or more disclaimer	**1,464**	**60.50%**	**425**	**59.52%**

Note: There were 2,420 print ad airings. The mean number of disclaimers per ad airing was 1.21 (s.d =1.33) overall, and 1.99 (s.d.= 1.17) conditional on at least one product disclaimer. 714 print ads contained one or more explicit Red Flag and 425 ads contained both an explicit Red Flag and a disclaimer. Of ads that contained an Explicit Red Flag, the mean number of disclaimers per ad was 1.42 (s.d. = 1.42) overall, and 2.39 (s.d. = 1.04) conditional on at least one disclaimer.

Table 23: Prevalence of Product Disclaimers in all TV Ads and Explicit Red Flag TV Ads

Product Disclaimers	All Ads		Explicit Red Flag Ads	
	N	Percent	N	Percent
Use with diet/ exercise plan	354,728	79.04%	21,553	27.97%
Speak with a medical professional before starting	78,033	17.39%	21,198	27.51%
Do not take if [health condition]	8,475	1.89%	8,189	10.63%
This product is not for use by individuals under 18 years of age	36,380	8.11%	5,083	6.60%
Results not typical/ may vary	69,522	15.49%	14,284	18.54%
These statements have not been evaluated by the FDA	363,273	80.95%	15,269	19.82%
Percent of ads with one or more disclaimer	**379,041**	**84.46%**	**25,923**	**33.64%**

Note: There were 448,777 TV ad airings. The mean number of disclaimers per ad airing was 2.03 (s.d =1.29) overall, and 2.40 (s.d.= 1.04) conditional on at least one product disclaimer. 77,057 print ads contained one or more explicit Red Flag and 25,923 ads contained both an explicit Red Flag and a disclaimer. Of ads that contained an Explicit Red Flag, the mean number of disclaimers per ad was 1.11 (s.d. = 1.81) overall, and 3.30 (s.d. = 1.58) conditional on at least one disclaimer.

For ads with each disclaimer, Tables 24 and 25 summarize the proportion with and without explicit Red Flag claims. 29.03% of print and 6.84% of TV ads that contained at least one product disclaimer also contained an explicit Red Flag. Some disclaimers, when they appeared, were more likely to be accompanied by explicit Red Flags than others. For instance, 69.70% of print ads and 96.63% of TVads that contained a disclaimer advising consumers not to use the advertised product if they had certain health condition also contained an explicit Red Flag. In print, explicit Red Flags were least likely to appear in advertisements that contained a disclaimer instructing consumers to use the advertised product along with diet and exercise; only 18.01% of print ads with

this disclaimer contained an explicit Red Flag. The same was true of just 6.08% of TV ads. Similarly, in TV, explicit Red Flags were least likely to appear in advertisements that contained a disclaimer stating that the advertised product claims had not been evaluated by the FDA; just 4.20% of TV ads with this disclaimer contained an explicit Red Flag. The same was true of 43.51% of print ads.

Table 24: Print Product Disclaimers by Presence of Explicit Red Flags

Product Disclaimers	**With Explicit Red Flag**		**Without Explicit Red Flag**	
	N	**Percent**	**N**	**Percent**
Use with diet/ exercise plan	179	18.01%	815	81.99%
Speak with a medical professional before starting	211	49.88%	212	49.88%
Do not take if [health condition]	23	69.70%	10	69.70%
This product is not for use by individuals under 18 years of age	13	30.23%	30	30.212%
Results not typical/ may vary	182	37.53%	303	62.47%
These statements have not been evaluated by the FDA	409	43.51%	531	43.51%
Percent of ads with one or more disclaimer	**425**	**29.03%**	**10,039**	**70.97%**

Table 25: TV Product Disclaimers by Presence of Explicit Red Flags

Product Disclaimers	With Explicit Red Flag		Without Explicit Red Flag	
	N	Percent	N	Percent
Use with diet/ exercise plan	21,553	6.08%	333,175	93.92%
Speak with a medical professional before starting	21,198	27.17%	212	72.83%
Do not take if [health condition]	8,189	96.63%	286	3.37%
This product is not for use by individuals under 18 years of age	5,083	13.97%	31,297	86.03%
Results not typical/ may vary	14,284	20.55%	55,238	79.45%
These statements have not been evaluated by the FDA	15,269	4.20%	348,004	95.80%
Percent of ads with one or more disclaimer	**25,923**	**6.84%**	**353,118**	**93.16%**

As indicated in Tables 26 and 27, ads with certain explicit Red Flags were more likely to contain product disclaimers than others. In print, ads with explicit Red Flag 5 ("Safely enables consumers to lose more than three pounds per week for more than four weeks") were most likely to contain a disclaimer (85.88%) and ads with explicit Red Flag 4 ("Blocks the absorption of fat or calories to enable consumers to lose substantial weight") were least likely to contain a disclaimer (26.83%). In TV, ads with explicit Red Flag 7 ("Causes substantial weight loss by wearing it on the body or rubbing it into the skin") were most likely to contain a disclaimer (100%) and ads with explicit Red Flag 4 were least likely to contain a disclaimer (14.88%).

Especially interesting was the prevalence of specific disclaimers that conflicted directly with particular explicit Red Flags. For instance, 13.77% of print ads and 14.01% of TV ads that contained an explicit Red Flag 1 claim ("Causes weight loss of two

pounds or more a week for a month or more, without diet or exercise") also contained disclaimers, that were neither clear nor conspicuous, instructing consumers to use the advertised product with diet and exercise. Similarly, many advertisements in both datasets that contained an explicit Red Flag 5 claim ("Safely enables consumers to lose more than three pounds per week for more than four weeks") also contained a health warning. For instance, of ads with explicit Red Flag 5, 18.82% of print and 14.40% of TV ads also advised consumers to speak with a medical professional prior to using the advertised product. Similarly, in ads containing explicit Red Flag 5, 18.82% of print and 14.40% of TV ads also advised consumers not to consume the product if they had certain conditions. Importantly, the vast majority of these disclaimers were not clear and conspicuous, but were presented in small, hard-to-read font at the bottom of ads.

Table 26: Print Explicit Red Flag Ads by Presence of Product Disclaimers

Explicit Red Flag	**With Disclaimer**		**Without Disclaimer**	
	N	**Percent**	**N**	**Percent**
1. Causes weight loss of two pounds or more a week for a month or more, without diet or exercise.	48	65.22%	90	34.78%
2. Causes substantial weight loss, no matter what or how much a consumer eats.	56	61.11%	88	38.89%
3. Causes permanent weight loss (even when the consumer stops using the product).	51	45.54%	61	54.46%
4. Blocks the absorption of fat or calories to enable consumers to lose substantial weight.	22	26.83%	60	73.17%
5. Safely enables consumers to lose more than three pounds per week for more than four weeks.	73	85.88%	12	14.12%
6. Causes substantial weight loss for all users.	372	76.39%	115	23.61%
7. Causes substantial weight loss by wearing it on the body or rubbing it into the skin.	-	-	-	-
Has one or more explicit Red Flags	**425**	**59.52%**	**289**	**40.48%**

Table 27: TV Print Explicit Red Flag Ads by Presence of Product Disclaimers

Explicit Red Flag	With Disclaimer		Without Disclaimer	
	N	Percent	N	Percent
1. Causes weight loss of two pounds or more a week for a month or more, without diet or exercise.	12,398	19.91%	49,868	80.09%
2. Causes substantial weight loss, no matter what or how much a consumer eats.	1,084	73.34%	394	26.66%
3. Causes permanent weight loss (even when the consumer stops using the product).	471	42.66%	633	57.34%
4. Blocks the absorption of fat or calories to enable consumers to lose substantial weight.	25	14.88%	143	85.12%
5. Safely enables consumers to lose more than three pounds per week for more than four weeks.	8,954	15.73%	47,965	84.27%
6. Causes substantial weight loss for all users.	24,212	32.97%	49,218	67.03%
7. Causes substantial weight loss by wearing it on the body or rubbing it into the skin.	29	100%	0	0.00%
Has one or more explicit Red Flags	**25,923**	**33.64%**	**51,134**	**66.36%**

Adherence to the FTC's 2009 Revised Endorsement Guides

The results also indicate that the vast majority of advertisements in both the print and TV datasets did not follow the 2009 revision to the *Guides Concerning the Use of Endorsements and Testimonials in Advertising*. Specifically, just 31.13% of print ads and 41.67% of TV ads that contained a "results may vary disclaimer" also disclosed typical weight loss results. There were also ads that contained typical results disclosures as well as consumer testimonials, but that did not include the "results may vary" disclaimer. Specifically, 76.66% of print and 48.71% of TV ads that contained a substantial weight loss claim as well as a consumer testimonial disclosed typical results but did not include a "results may vary" disclaimer. While "results may very" is not required by the revised guidelines, this fact is important to note, since typical disclosures of results were often

contained in small font at the bottom of the ad. Without the inclusion of "results may vary" next to an endorsement, consumers may be even less likely to see an indication that the depicted consumer's experience may not be typical.

Additionally, requiring disclosure of realistic, typical results may have led to specific advertising behaviors. Of ads that disclosed unsubstantial weight loss as typical results, 61.54% of print ads and 99.85% of TV ads contained another weight loss claim that was substantial or unsafe. This is important, since even when ads report typical outcomes that are realistic, they often include unrealistic endorsements. In addition to the issue of disclosure prominance, conflicting messages may reduce the impact that typicality disclosures have on consumers' net impression, leading them to believe that dramatic results are common, despite the unsubstantial weight loss disclosed as typical. As a result, advertisers may technically comply with the 2009 revision to the endorsement guidelines while still continuing to mislead consumers.

On the other hand, another indication of possible infringement is that many typical results claims were unrealistic and, therefore, unlikely to be adequately substantiated. Of ads that disclosed typical results, 94.12% of print and 70.64% of TV ads claimed typical results categorized as substantial weight loss, and 55.42% of print 11.72% of TV ads claimed typical results classified as unsafe. Given the fact that over-the-counter weight loss products have not been shown to promote substantial weight loss, such typical results are unlikely to be supported by reliable empirical evidence. Similarly, although the revised guidelines only require the disclosure of typical results if an endorsement's conveyed experience was not indicative of what most consumers can expect, many ads without typical result disclosures contained weight loss claims that

were unlikely to be typical. Specifically, regarding ads that contained weight claims but did not include typical results disclosures, 100% of print and TV ads contained a substantial weight loss claim and 68.20% of print and 15.49% of TV ads contained an unsafe weight loss claim. Again, due to the lack of adequate substantiation supporting efficacy, it is highly probable that these advertisements would qualify as deceptive under federal law.

The concerns regarding adherence to the 2009 revision can be further demonstrated by analyzing ads with weight claims in pounds. Again, there is strong evidence that inclusion of typical result disclosures serves as an offsetting behavior. In print ads that contained a weight loss claim in pounds as well as a "results may vary" disclosure, the mean maximum number of pounds of weight loss claimed via a testimonial was 26.25 (s.d= 15.14) in ads without a typical results disclosure and 58.35 (s.d= 80.27) in ads with a typical results disclosure, a difference of over 200%. The results were less dramatic in the TV dataset, with the mean maximum number of pounds lost claimed by consumers per ad at 31.62 (s.d. = 13.71) in ads without a typical results disclosure and 32.04 (s.d= 21.85) in ads with a typical results disclosure. Since "results may vary" was not specifically required by the 2009 revised guidelines, advertisers may asert that it is implied via the communication of typical result disclosures that results may vary. When examining non-typical weight claims in pounds, regardless of whether "results may very" was specified, the mean number of pounds claimed was larger in the presence of a typical results disclosure. The mean maximum number of pounds claimed was 34.27 (s.d. = 20.76) and 21.85 (s.d=10.20) without a typical results disclosure, but

41.47 (s.d=27.51) and 49.55 (s.d=11.09) with a typical results disclosure in print and TV ads respectively.

Furthermore, many typical results claims given in pounds were unlikely to be adequately substantiated, with a mean of 19.23 (s.d=6.94) pounds lost claimed as typical in the print dataset and 15.41 (s.d.=7.66) pounds lost claimed as typical in the TV dataset. Third, in ads that contained both a typical results claim in pounds and at least one other claim in pounds, the amount of weight loss claimed as typical was considerably less than other claims in both dataset. In print ads with typical results in pounds and at least one other claim in pounds, the mean typical results claimed was 18.63 (s.d= 6.88) pounds, whereas the mean maximum weight loss asserted in other claims was 41.78 (s.d=27.57). In TV ads that contained both a typical results claim in pounds and at least one other weight loss claim in pounds, the mean typical results disclosed was 20.06 pounds (s.d=3.48) and the mean maximum non-typical results claimed was 49.54 (s.d=11.12) pounds. In other words, the mean maximum number of pounds asserted in non-typical results weight claims were 225% and 250% larger than the pounds claimed as typical results in print and TV ads respectively. Again, since typical results were often disclosed in small font, and consumers may be confused by conflicting statements, the net impression of such advertisements is ambiguous.

CHAPTER SEVEN: SUMMARY OF FINDINGS

This study demonstrates that explicit Red Flag claims remained relatively common in over-the-counter weight-loss product advertisements that aired during 2010 and 2011. Since the Red Flag guidelines targeted media outlets specifically, it was essential to characterize the behavior of magazine publishers and TV networks to evaluate the initiative fully. Among magazines that published 10 or more weight loss ads, approximately 34% of each magazine's ads contained an explicit Red Flag. Furthermore, 93% of magazines that aired 10 or more weight loss ads disseminated at least one ad containing an explicit Red Flag claim. Consequently, these results suggest that very few publishers enforced the FTC's guidelines. This is important, since print magazines, with their relatively limited ad volume and slower-paced publication deadlines, represent the platform in which screening is most feasible.

Critically, even if the FTC's guidelines were fully implemented, they would do little to curb the prevalence of deception in the market since the results indicate that Red Flag claims serve as a poor proxy for the total frequency of ads with misleading content. Specifically, when using the precise definitions provided by the FTC's 2003 guidelines, 30% of print ads and 17% of TV ads contained explicit Red Flag claims during the study period, but when broadening the definitions to include advertising content that represented the spirit of Red Flag claims (and likely to be considered misleading under federal law), 94% of print ads and 99% of TV ads qualified as deceptive.

Additionally, to avoid scrutiny, it appears that advertisers adopted several other types of offsetting marketing content to circumvent the aims of the Red Flag initiative. For instance, in ads that included a weight claim in pounds, but did not contain an explicit

Red Flag, the mean amount of weight loss claimed was 33.09 pounds in print ads and 38.01 pounds in TV ads. Such dramatic results are unlikely to be representative of consumers' actual outcomes or substantiated by reliable empirical research. Similarly, ads that contained a substantial weight loss claim as well as one or more of the "potentially deceptive" characteristics enumerated by the FTC in 2002 appear particularly misleading. While 92% of print ads and 87% of TV ads contained both of these problematic features, just 32% of these print ads and 20% of these TV ads qualified as deceptive using explicit Red Flag claims. Similar offsetting behaviors were observed in the evaluation of the FTC's 2009 revision to its *Guides Concerning the Use of Endorsements and Testimonials in Advertising.* Advertisements that included the mandated typical results disclosures also asserted even more dramatic weight loss claims.

In summary, despite the FTC's optimism, there is little evidence that the Commission's Red Flag guidelines were adopted in the long-term. Rather, given the relatively uniform prevalence of ads with explicit Red Flag claims across media outlets, it is far more likely that ad content was driven by manufacturers' marketing choices rather than by media screening efforts. Moreover, assuming the accuracy of the FTC's assertion that roughly half of all weight loss ads contained an explicit Red Flag in 2001, these findings strongly indicate that advertisers engaged in offsetting behaviors during the period of study. Specifically, in response to the Commission's focus on the seven Red Flag claims, it appears that many advertisers substituted other creative deceptive content, allowing them to avoid scrutiny while continuing to mislead consumers.

CHAPTER EIGHT: DISCUSSION

Evidence of Ineffectiveness and Offsetting Behaviors

Avery et al. (2013) estimated that the percent of ads containing an explicit Red Flag claim to be 60.16% in unique print ads and 43.20% in TV ad airings prior to the initiative (2001-2002) and 30.47% in unique print ads and 23.60% in TV ad airings following the initiative (2005-2006). Similarly, across multiple media types, the FTC estimated the prevalence of ads with Red Flag claims to be 49% before the initiative (2001) and 15% after the initiative (2004). Although these findings are not directly comparable to the results presented in this thesis, the trends largely support the hypothesis of the first research question. The prevalence of Red Flag ads was higher before the initiative than in 2010 and 2011 using either Avery et al (2013)'s or the FTC (2005)'s findings. Compared to the short-term post-initiative periods, however, my findings for the long-term post-initiative period (2010-2011) showed higher rates of non-compliance than the FTC (2005)'s estimates, but roughly the same as those of Avery et al. (2013).

Prima facie, these trends imply that the FTC's Red Flag guidelines were at least partially successful in reducing deceptive advertising in the industry. Unfortunately, however, closer examination of the findings indicates that the majority of print and TV advertisement airings disseminated in 2010 and 2011 contained evidence of misrepresentation. Additionally, since the FTC's initiative spurred offsetting behaviors on the part of manufacturers and advertisers, Red Flag claims captured only a small fraction of the total frequency of ads with misleading content. Specifically, while 30% of print ads and 17% of TV ads contained at least one Red Flag claim as defined in the

FTC's 2003 guidelines, 94% of print ads and 99% of TV ads contained at least one Red Flag claim or a representation that portrayed the same message as a Red Flag claim but lacked the necessary wording.

To demonstrate the preceding point, it is particularly instructive to consider Red Flag 1, "Causes weight loss of two pounds or more a week for a month or more, without diet or exercise". Just 1.61% of print ad airings and 0.09% of TV ad airings contained a statement that explicitly mentioned that lifestyle changes were not required to lose weight and met the time period requirement specified. In regard to Red Flag 1, however, the FTC's guidelines stipulated, "A claim is false if it says or suggests that users can lose weight fast without changing their lifestyles, even if the ad doesn't mention specific amounts of weight loss or time periods. The four measurements used in weight loss ads are pounds, dress size, inches, and body fat, any one of which can be used to convey the message of substantial weight loss" (Beales, 2003, p.7). The examples of variations given in the guides did not meet the time period requirement specified in the claim and some referred to the lack of need for "lifestyle" changes rather than diet or exercise specifically. Using this definition of Red Flag 1, only 6% of print ads and 14% of TV ads contained the claim.

Again, although the FTC's guidelines described, "A claim is false if it says or suggests that users can lose weight fast without changing their lifestyles," none of the variations given excluded an explicit reference to the lack of lifestyle changes needed to lose weight. In the 2003 workshop report, however, the Commission stated, "FTC case law is well established that where a product requires a restricted caloric intake to be effective, that fact must be clearly and prominently disclosed in the advertising for the

product" (FTC, 2003, p.46). Since there is no reliable evidence supporting the notion that over-the-counter weight loss products are effective without diet and exercise, it can be assumed that any advertisement claiming the loss of two or more pounds per week or weight loss in a unit other than pounds, without clearly disclosing the need for lifestyle changes, qualifies as deceptive. When broadening the definition of Red Flag 1 in this manner, 90% of print ads and 50% of TV ads contained the forbidden claim. Consequently, although there is strong evidence indicating that the majority of outlets did not adopt the FTC's screening guidelines, such guidelines would do little to prevent the dissemination of deceptive advertisements even if adopted.

Due to the definitional ambiguities and logistical challenges presented by the Red Flag guidelines, the FTC's guidelines do little to assist media outlets with advertisement screening or to educate consumers on how to spot misleading claims. Rather, the specific Red Flag statements merely serve as narrowly defined instructions for advertisers on how to best avoid direct scrutiny. For instance, despite overwhelming evidence that dietary supplements do not promote substantial weight loss, approximately 90% of both print and TV ad airings contained a substantial weight loss claim in combination with at least one of the potentially deceptive characteristics defined by the FTC in 2002. Less than a third of print and less than 20% of TV ads with these two characteristics, however, qualified as deceptive under the definition provided by the FTC's Red Flag guidelines. As a result, manufacturers were largely free to entice consumers via unrealistic weight loss assertions without raising alarms for their inclusion of prohibited Red Flag claims. In summary, the findings presented strongly indicate that the Red Flag initiative may have simply

prompted manufacturers to engage in offsetting behaviors, rather than to curb their deceptive marketing practices.

Why it Matters: Costs of Persistent Deception

The prevalence of overweight and obesity has continued to rise, and there is no foreseeable end to the burden this places on society. Due to the presence of market failures, the U.S. government has substantial interest in the implementation of successful interventions aimed at restoring economic efficiency and preventing undue consumer harms. In the case of weight loss products, consumers rely on their ability to analyze relevant information to make rational tradeoffs and maximize utility. While the government has tremendous incentive to ensure information symmetry in the market, the FTC's failure to diminish the presence of deceptive weight loss product advertisements, which often misrepresent goods' safety and efficacy, has resulted in harm to millions of American consumers who are subsequently unable to efficiently allocate their resources.

The impact of failed regulation in the weight loss product market is abundantly apparent. For instance, according to a consumer fraud survey published by the FTC in 2013, deceptive weight loss product advertisements were the most common type of fraud measured, resulting in approximately 7.6 million incidents of purchase and costing American consumers a total of $608 million in 2011 alone (Anderson, 2013). Moreover, these individuals may not merely face financial harm, but also physical consequences. As previously noted, there are an estimated 6,000 emergency department visits annually associated with weight loss dietary supplements sold in the U.S. (Greller et al, 2016). This is particularly troubling since the FDA estimates that it receives notification of just

2% of all adverse health events associated with dietary supplements. Also, the FDA collects incomplete information on the majority of the reports it obtains, greatly hindering its ability to respond to unsafe products in the market (Timbo et al., 2017). Moreover, since the efficacy of over-the-counter weight loss products has not been demonstrated, consumption of these goods is unlikely to lead to weight reduction or any of the associated health benefits. According to the FTC's 2013 fraud survey, of the roughly 7 million American adults who purchased an over-the-counter weight loss product in 2011, just 13% stated that they had lost at least as much weight as they had expected to lose, whereas nearly three-quarters reported losing less than half the amount of weight they expected to lose (Anderson, 2013). As a result, since many of these products promise fast, easy, and substantial results, consumers who use them may become disillusioned with weight loss and less likely to attempt more effective methods in the future (Polivy and Herman, 2000).

FTC's Failure to Learn from Past Mistakes

Although touted as revolutionary in 2003, the Red Flag guidelines did not constitute a novel concept for the FTC. For instance, beginning in 1961, the FTC started to send broadcasters a publication entitled "Advertising Alert," which aimed to "assist publishers in screening for deceptive commercial material" (Pridgen & Engel, 1982, p. 237). In regard to weight loss products and dietary supplements specifically, in the mid-1990s, the former Commissioner, Christine Varney, gave several speeches in which she spoke of misleading weight loss product advertisements and promoted media screening efforts (Varney, 1996). As part of Operation Waistline in 1997, the FTC sent letters to

over 100 publications that disseminated fraudulent and misleading weight loss advertisements and urged then to “step up their advertising review efforts to prevent blatantly deceptive weight loss ads from reaching consumers” (FTC, 1997). Then, in 1999, the FTC and its partners launched the Ad Nauseam Campaign to challenge “the media to demonstrate their ability to exercise reasonable screening measures before accepting ads for publication” (FTC, 2000).

Despite reaffirming its commitment to supporting media advertisement screening efforts countless times over the past half century, the FTC has also acknowledged the insufficiency of this tactic on several occasions. For instance, regarding the 1999 Ad Nauseam Campaign, the FTC noted that only one publication provided any response (Anthony, 2002). Similarly, in the 2002 report that ultimately prompted the Red Flag initiative, the Commission remarked, “The past efforts of the FTC and the others to encourage the adoption of media screening standards have been largely unsuccessful” (Cleland et al., 2002, p. xi). While the Red Flag initiative was somewhat novel in that it was the first to provide media with a specific list of claims, the FTC continued to acknowledge the disappointing lack of success associated with its promotion of screening efforts. For instance, in a speech before Magazine Publishers of America in 2010, the then-Director of the Commission’s Bureau of Consumer Protection, David Vladeck, reminded the audience about the 2003 Red Flag initiate then stated, “Despite the Commission’s efforts to date, it appears that the flow of patently deceptive advertisements in major publications has continued unabated. Indeed, the floodgates may be open wider than ever” (Vladeck, 2010 p. 14). The FTC, however, has largely

attributed this lack of success to the failure of media outlets to participate, rather than the inadequacy of its chosen strategy.

In summary, despite decades of efforts to promote media screening, the FTC has failed to learn from its past attempts. In 2014, following the study's observation period, the FTC launched *Operation Failed Resolution*, which was nearly identical to the Red Flag initiative. As part of this effort, the FTC initiated a handful of enforcement actions, disseminated new consumer education materials and published a revised version of its media screening guidelines. The only substantive changes to the guidelines were that they made references to the 2009 revision of rules surrounding endorsements and changed its name to *Gut Check: A Reference Guide for Media on Spotting False Weight Loss Claims* (Fair, 2014). While the FTC has rebranded its strategies several times since the 1990s, its core tactics of reliance on voluntary media participation, consumer education, and a handful of enforcement cases, have remained essentially unchanged. Until the Commission acknowledges this fact and alters its approach, it will continue to have a minimal impact on the prevalence of deceptive weight loss product advertisements.

Explanations for the Commission's Lack of Success

There are several factors that likely limit the success of the FTC's Red Flag initiative. First, due to the FTC's insufficient personnel and financial resources relative to the size of the industry, the FTC is unable to address the volume of problematic advertisements. As Richard Cleland, a senior lawyer for the FTC in the early 2000s described deceptive advertisers, "there are a lot more of them than there are of us, and under no foreseeable circumstances is enforcement going to address this problem… it can

only set the example" (Gross, 2007). As will be discussed below, even for manufacturers that are the subject of complaints filed by the FTC, the Commission's enforcement actions have been insufficient to deter future deceptive marketing practices. Additionally, although the FTC has disseminated several different types of consumer education materials, there is no indication that these items have reached consumers most at risk of falling victim to fraudulent weight loss claims (Anderson, 2013). Finally, the FTC's biggest oversight pertaining to the Red Flag initiative falls with the backbone of the effort- the voluntary media outlet guidelines. The FTC attached neither a carrot nor a stick to its plea for pre-market screening; while it has not offered a reward for participation, it has also never held a media outlet liable for failing to do so (Lellis, 2016).

The FTC has alleged that careful screening would benefit media outlets by enhancing their credibility. Such effects, however, are indirect and hard to quantify. The opposite is true for the costs associated with screening. For instance, each advertisement an outlet declines to air represents a direct loss in profit. Reviewing advertisements prior to publication requires additional time and manpower, particularly for media outlets facing short publication deadlines and high advertisement volumes. At the FTC's 2002 workshop, the Cable Advertising Bureau expressed concerns about its members' ability to screen advertisements effectively, since each network it represented saw an average of 217,000 advertisements annually (FTC, 2002). Lastly, refusing to publish truthful advertisements by mistake, may lead to accusations of infringement on First Amendment rights and result in expensive legal ramifications. Although the FTC has repeatedly described adhering to its guidelines as "simply comparing the claims in an ad with the

claims on our list," advertisers are unlikely to include the precise phrasing of Red Flag claims (Swindle, 2003). The tremendous amount of ambiguity regarding whether statements qualify as deceptive, therefore, provide media outlets with a strong incentive not to screen prior to publication.

Is Media Liability the Solution?

While many may agree that the current regulatory framework governing dietary supplements is flawed, little consensus exists on the proper solution. As an alternative to voluntary media guidelines, one proposal- albeit provocative- is for the FTC to hold media outlets legally liable for the advertisements they publish (Galloway, 2003). As the gatekeepers to widespread advertisement dissemination, it is undeniable that media outlets yield considerable power. Proponents of targeting media outlets contend that since there are far fewer outlets than individual manufacturers, the FTC would be better able to focus its efforts and utilize its limited resources if it made publishers the target of its enforcement actions (Galloway, 2003). Holding media outlets responsible for ad content, however, faces the same practical challenges as asking for their voluntary participation and also presents a slew of additional legal and constitutional obstacles.

The FTC is permitted to regulate deceptive advertisements because of the First Amendment limitations placed on "commercial speech". Specifically, the Supreme Court has ruled that government intervention in commercial speech is only permissible upon proving that: 1) The advertisement is misleading; 2) There is substantial governmental interest in regulation; 3) Governmental intervention directly advances the governmental interest proclaimed; and, 4) The governmental interference is not more extensive than

required (Troy, 1998). Although weight loss advertising qualifies as commercial speech, and there is sufficient government interest in its restriction when deceptive, it is unclear precisely which sorts of government interference is too extensive to qualify as constitutional. For instance, in the Federal Trade Commission Act (1994), the FTC clearly stated that the court shall not hold media outlets responsible for deceptive advertisements if the screening process would interfere with their normal operations:

> Whenever it appears to the satisfaction of the court in the case of a newspaper, magazine, periodical, or other publication, published at regular intervals—(1) that restraining the dissemination of a false advertisement in any particular issue of such publication would delay the delivery of such issue after the regular time therefor, and (2) that such delay would be due to the method by which the manufacture and distribution of such publication is customarily conducted by the publisher in accordance with sound business practice, and not to any method or device adopted for the evasion of this section or to prevent or delay the issuance of an injunction or restraining order with respect to such false advertisement or any other advertisement, the court shall exclude such issue from the operation of the restraining order or injunction (Federal Trade Commission Act [1994] § 53[d]).

Additionally, some warn that holding media outlets responsible would qualify as exerting prior restraint on their free speech, creating another set of constitutional challenges (Gross, 2007). As a result, although it could be argued that media outlets qualify as actively involved in the promotion of deception and should, therefore, be subject to liability, the associated logistical, legal, and constitutional impediments make the proposal unviable. Consequently, neither voluntary nor mandatory screening guidelines for media outlets offer a promising solution to the issue of deceptive advertising in the weight loss industry.

Broad Regulatory Failures

The widespread availability of ineffective and possibly unsafe over-the-counter weight loss products is not rooted in the failure of any one government agency's ability to execute on its prescribed responsibilities. Rather, it reflects a much broader regulatory problem. To truly understand the issues plaguing the system governing dietary supplements, one must not judge the FTC or FDA in isolation, but look at the regulatory framework as a whole. A benefit of the time period selected for analysis in this study is that it allows for observation of government's response to the most egregious perpetrators of deception. In Appendices D.1 and D.2, I cite Hi-Tech Pharmaceuticals and the Obesity Research Institute as the parent companies responsible for publishing the greatest number of advertisements with explicit Red Flags in print and TV samples respectively. These examples demonstrate the inadequacy of the reactionary tools currently available to federal agencies as well as the FDA's and FTC's inability to employ fully the authorities granted to them under law. Importantly, these cases are not anomalies, as several other companies present a similar sequence of events. Critically, in both cases, it is not simply that these firms flew under the government's radar. The FTC and FDA began to investigate them in the early 2000s, subsequently took enforcement actions and prevailed, yet were unable to halt future infringement on federal law. Despite years of governmental action, their products remain available today. The persistence of these products, with their deceptive claims and unproven and possibly unsafe contents, makes clear that the FTC's and FDA's response has been ineffective and a waste of taxpayers' dollars.

CHAPTER NINE: POLICY IMPLICATIONS

Since 1994, it has become abundantly clear that dietary supplements offer little to no health benefits and that government agencies' responses have been insufficient to keep Americans safe. Once supplements are on the market, the FDA and the FTC simply do not have the resources to investigate every consumer complaint. As the examples of Hi-Tech Pharmaceuticals and the Obesity Research Institute demonstrate in Appendices D.1 and D.2, however, even when both agencies responsible for governing the dietary supplement industry utilize many of the tools available to them, the government has been unable to remove problematic products and companies from the market. The failed efforts of the FDA and FTC to regulate the industry are symptomatic of both individual agency failures and substantial flaws in the broader policy framework.

This section first summarizes the limitations of DSHEA, with attention given to the restrictions placed on the FDA's authority, failures to implement and enforce the Act fully, and the ineffectiveness of certain provisions. Although the FDA should do more to ensure compliance with current requirements, since sweeping legislative changes to the regulation of dietary supplements are unlikely to occur in the short-term, the discussion then turns to more feasible alternatives. Specifically, the second portion of the discussion focuses on additional solutions available to the FTC under the current policy framework. By outlining a specific proposal, I demonstrate that the Commission can do more to protect consumers while remaining within the bounds of its authority and without deviating from its past positions.

DSHEA's Shortcomings

There are three central reasons for DSHEA's failure to regulate the market and prevent consumer harms adequately: 1) the law limits the scope of the FDA's authority, 2) many consumer protection provisions provided by the legislation have failed to be fully implemented or enforced, and 3) several regulations have proven ineffective. First, under the current legal framework, the FDA does not have the authority to test products prior to sale and bears the burden of proof in the post-market. As a result, to ban a substance, the FDA is required to undertake a series of lengthy scientific and legal procedures (Fabricant, 2013). In many ways, the FTC has attempted to circumvent the regulatory shortcomings of DSHEA by mandating pre-market screening via policy statements such as "It is unlawful to advertise that a product causes weight loss unless you possess well-controlled human clinical studies of the product, or a substantially similar product, substantiating that the claims are true. Such studies must be randomized, double-blind, and placebo-controlled, and conducted by researchers who are qualified by training and experience to conduct such studies" (Mandel, 2015). It is the FDA rather than the FTC, however, with staff qualified to verify health claim substantiation. Moreover, without the proper legislative backing from DSHEA to ensure this provision is followed, its impact will continue to be minimal.

Second, there are multiple measures that have failed to be fully employed under DSHEA. For instance, the law gave the FDA the authority to issue current good manufacturing practices (cGMPs) when it was passed in 1994. Not only did these guidelines fail to be finalized until 2007, but also even after they were released, the

majority of manufacturers did not adhere to the standards enumerated (GOA, 2013). Likewise, DSHEA allows the FDA to issue class I recalls of dietary supplements believed to present a reasonable probability of causing serious adverse health consequences. Even when the FDA exercises this authority, however, it fails to remove problematic products from store shelves. One recent investigation showed that, in the case of weight loss supplements, 67% of recalled products remained adulterated with banned ingredients at least 6 months following issuance of an FDA recall (Cohen et al., 2014). Lastly, some of DSHEA's provisions that have been adopted have been shown to be ineffective. For instance, while 93% of weight loss supplements' labels were found to include the required "These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease" disclaimer in the presence of a structure-function health claim, research has indicated that the disclaimer fails to impact consumers' perceptions of either safety or efficacy (HHS, 2012; Manson et al., 2007).

In summary, although the FDA should do more to enforce existing provisions regarding consumer safety, to protect consumers from harm more effectively, the United States' Congress would have to overhaul DSHEA and replace it with much more expansive legislation. Such an act would involve broadening the FDA's regulatory power to allow for drug-style pre-market screening. This, however, would pose considerable costs. Since, unlike drugs, dietary supplements do not enjoy patent protection or insurance coverage, such a mandate would likely cause dramatic restrictions in the market. With as many as 76% of Americans reporting dietary supplement use, 750,000 individuals employed by the industry, lobbying groups spending millions on

Congressional efforts each year, as well as the current administration's wariness of regulatory overreach and pro-business agenda, a proposal to expand DSHEA would likely be both socially and politically unpalatable (CRN, 2018; Open Secrets, 2017; CRN, 2017; Long, 2017).

Viable Options for the FTC under Current Law

Although DSHEA does not apply to advertising or to the FTC, under the Federal Trade Commission Act (FTCA), the Commission holds broad regulatory powers to prevent unfair and deceptive acts affecting commerce (FTC, 2008). During the course of its efforts to halt misleading weight loss supplement advertising, the FTC has exercised many of the authorities allotted to it by FTCA. Particularly, its actions have centered on four key strategies: filing enforcement cases, issuing guidelines, promoting media screening, and publishing consumer education materials. Despite such multifaceted efforts, the Commission has failed to curb deceptive advertising in the over-the-counter weight loss product industry. Importantly, renewed commitment to tactics shown to be ineffective, as was done with *Operation Failed Resolution* in 2014, is unlikely to produce more favorable results in the future in the absence of additional measures (FTC, 2014). While the previous section touched on the legal and constitutional limitations of several proposals presented in the past, the FTC has untapped tools at its disposal under the existing legal framework. Specifically, in its pursuit of truthful, non-misleading weight loss advertisements, the Commission ought to exercise the authorities granted to it by Section 18 of the FTCA by requiring all weight loss supplement advertisements to prominently disclose:

1. "This product has not been tested by the Food and Drug Administration for safety or efficacy, and the truthfulness of the product claims in this advertisement have not been evaluated by any government agency"

2. "No dietary supplement has been shown to cause substantial or long-term weight loss in isolation. Safe and effective weight loss requires lifestyle changes, including diet and exercise"

While such a provision may raise objections under the First Amendment, close examination of federal law demonstrates that it is both legally and constitutionally permissible as well as reflective of the FTC's past guidelines and policy statements (FTC, 2002). This section begins by providing the legitimate basis for the proposed rule then discusses how each segment aligns with the FTC's previously articulated positions. Lastly, after describing how the proposal offers benefits over the status quo, the section concludes by highlighting areas for future research.

The legality of the proposal stems from the FTC's authority to issue Trade Regulation Rules (TRRs) under Section 18 of the FTCA. Unlike policy statements or industry guidelines, TRRs "define with specificity acts or practices in or affecting commerce which are unfair or deceptive" and have the force and effect of law (FTC, 1990, p.2). In 1962, the FTC amended its procedures to allow for TRRs in order to promote enforcement efficiency. Until then, it had relied on individual agency adjudications as its central means of defining and enforcing the FTCA (FTC, 1990). TRRs were novel in that, unlike all previously used enforcement tools, they allow the Commission to seek enforcement against the practices of an entire industry. Although the FTC's proliferation of TRRs in the mid-to-late 1960s and early 1970s was met with considerable backlash and attempts to restrict the Commission's power, the

Commission's authority has been reaffirmed by both a U.S. District Court of Appeals and by federal law (FTC, 1990).

In recent decades, however, the Commission has only issued TRRs sparingly and largely continued to rely on traditional enforcement methods. Specifically, as a general rule, "the FTC tries simply to ensure, through its case-by-case enforcement activities, that information provided by sellers to consumers is accurate" (Azcuenaga, 1997). The Commission has voiced that TRRs are only warranted in particular contexts explaining, "with respect to some industries, the Commission has concluded that because of a lack of accessible information, or an ability on the part of the consumers to evaluate information that is available, it is appropriate to issue rules that require industries to provide specific information in particular ways…The FTC also has used its rulemaking authority to require disclosures of information in other markets in which consumers traditionally received relatively little information" (Azcuenaga, 1997). In regard to the weight loss supplement market, there is a dearth of accessible accurate information. Specifically, due to the lack of government oversight, the misbranding of products and the use of deceptive advertising claims are widespread. Moreover, because of the experience or credence nature of goods, consumers are unable to evaluate the veracity of information that is available prior to making purchasing decisions (Cawley et al., 2013). As a result, in light of pervasive misconceptions regarding government oversight and the considerable consumer harms associated with the market, the weight loss supplement industry is a perfect contender for the proposed imperative.

Furthermore, while some may question the acceptability of a rule requiring information to be presented using precise phrasing and placement, the practice is in line

with several TRRs issued by the FTC in the past. For instance, under what is referred to as the "Cool-off Rule," door-to-door salesmen are required to disclose specific information to consumers in an extremely specific manner (16 CFR 429.1, 2015). For example, the first provision of the rule states that a sale qualifies as unfair and deceptive if the seller fails to include, at the time and in the language of the transaction, "You, the buyer, may cancel this transaction at any point prior to midnight of the third business day after the date of this transaction. See the attached notice of cancellation form for an explanation of this right" in boldface font of a minimum size of 10 points located either adjacent to the space reserved for the buyer's signature on a receipt or on the front page of a contract (16 CFR 429.1, 2015, p.1). Consequently, due to the stringent standards enumerated by previous TRRs, it is clear that the FTC has the authority to issue the proposed disclosure rule.

In terms of content, the proposed rule is largely a formalization of previous statements issued by the FTC. Specifically, the first component of the disclaimer ("This product has not been tested by the Food and Drug Administration for safety or efficacy and the truthfulness of the product claims in this advertisement has not been evaluated by any government agency") closely reflects the first line of the DSHEA-mandated disclaimer for dietary supplement labels containing a structure-function claim ("This statement has not been evaluated by the Food and Drug Administration") (Code of Federal Regulations, 2017). Although the DSHEA provision does not apply to advertisements, the FTC has contended, "there are situations where such a disclosure is desirable in advertising as well as in labeling to prevent consumers from being misled about the nature of the product and the extent to which its efficacy and safety have been

reviewed by regulatory authorities" (FTC, 2001, p. 1). Since the majority of consumers mistakenly believe weight loss supplements to be tested by the government prior to sale, it is evident that the advertisement of these products qualifies as a situation in which disclosures may prevent individuals from being misled (Pillitteri et al., 2008).

Since the DSHEA-mandated disclaimer for labels with structure-function claims has not been found to impact consumers' perception of safety of efficacy, it is important to highlight the two ways in which the proposed disclaimer differs. First, although the Federal Code of Regulations, which enumerates the requirements for the DSHEA disclaimer, specifies the wording, size, and placement to be used, it is unlikely that the standards are sufficient to catch consumers' attention. Specifically, the regulation does not require the disclaimer to appear adjacent to the structure-function claim as long as it is linked with a symbol (e.g. an asterisk) and set off in a box. Additionally, although the disclaimer must appear in boldface font, the type size need not be larger than one-sixteenth of an inch (Code of Federal Regulations, 2017). As a result, as shown by the product label in Appendix D3, by placing claims such as "PROMOTES HEALTHY WEIGHT LOSS*" and "HELPS BOOSTS METABOLISM*" on the front of the label in large text next to an image of a thin individual, but disclosing the mandated, "*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent disease" in small text and hard-to-read font color on the back of the label, manufacturers may continue to deceive consumers while still complying with federal law. In contrast, in the case of the proposed disclaimer, the FTC ought to require advertisers to meet more stringent size, font, color, location,

orientation, and when applicable, audio specifications to ensure that the information is adequately prominent.

Second, the study that identified the DSHEA disclaimer as ineffective also found that product-specific disclosures had a greater impact on consumers' perceptions than general disclosures (Manson et al., 2007). Critically, whereas the DSHEA disclaimer is rather general, the proposed disclaimer refers specifically to safety and efficacy in the first component as well as to weight loss products and the necessity for lifestyle changes in the second component. It is likely, therefore, that the proposed rule would be more effective in conveying useful information to potential customers. Although precise phrasing is included above to demonstrate the spirit of the proposed disclosure rule, future research should focus on determining the wording and presentation that are most effective in conveying information to consumers.

Additionally, the second component of the proposed disclaimer, "No dietary supplement has been shown to cause substantial or long-term weight loss in isolation. Safe and effective weight loss requires lifestyle changes, including diet and exercise," aligns with the Commission's past guidelines on the disclosures necessary for an advertisement to be truthful and non-misleading. The Supreme Court has determined that the First Amendment does not apply to deceptive commercial speech and, to qualify as truthful, federal law requires the clear and conspicuous disclosure of any qualifying information for all explicit and implicit representations portrayed during the course of an advertisement (FTC, 1987). On several occasions, the FTC has expressed that weight loss advertisements may need to prominently disclose the need for diet and exercise to avoid being qualified as misleading. For instance, In the FTC's 2003 report on the workshop

that led to the creation of Red Flags, the Commission explained, "FTC case law is well established that where a product requires a restricted caloric intake to be effective, that fact must be clearly and prominently disclosed in the advertising for the product" (FTC, 2003, p. 46). Likewise, in its 2001 guidelines on dietary supplements, the FTC specified "A fine print disclosure at the bottom of the ad, "Restricted calorie diet and regular exercise required," would not be sufficiently prominent to qualify … the overall impression that the product alone will cause weight loss" (FTC, 2001, p.7). As a result, as demonstrated by the explicit and implicit measures of Red Flag 1, the majority of weight loss ads analyzed for this thesis may qualify as deceptive under federal law.

While the FTC seems to suggest that disclosure of the need for diet and exercise to achieve weight loss is necessary for some advertisements to be truthful but not others, peer-reviewed evaluations have failed to identify any over-the-counter weight loss products or ingredients as effective in producing substantial or long-term results in the absence of lifestyle adaptations (Manore, 2012). The FTC has acknowledged and echoed this fact on several other occasions. For instance, in its 2003 workshop report the FTC concluded "the amount of weight loss that can be achieved through the use of nonprescription products without reducing caloric intake or increasing exercise is likely to be no more than one-fourth to one-third of a pound per week (FTC, 2003, p. 6). Consequently, inclusion of the proposed disclosure would enhance the veracity of any advertisement for an over-the-counter weight loss product.

In addition to those already mentioned, the recommended disclosure rule would offer several advantages over the status quo. First, it would provide far less ambiguity than screening guidelines since it does not focus on the presence of specific statements

and applies to all weight loss supplement advertisements, regardless of creative content. In other words, whereas it may often be unclear whether a given claim qualifies as a Red Flag, under the proposed rule, any over-the-counter weight loss advertisement without the disclosure would be considered deceptive. Second, not only is the proposed rule more feasible than proposals to overhaul DSHEA, but it may also be more economically efficient. For instance, whereas tighter industry regulations may be expensive and restrict the market, the provision of additional information in the manner described would cost little and likely enhance consumers' ability to make rational tradeoffs and, therefore, maximize utility. For this reason, the FTC has historically voiced a preference for provisions that increase information over those that limit industry or purchasing autonomy (Swindle, 2004; Ramirez, 2014).

Lastly, the proposed disclosure would reduce the potential advantages gained from engaging in certain common offsetting behaviors. Specifically, if the proposed rule is fully implemented as described, there would be little benefit to avoiding weight claims in pounds, neglecting to specify the time period over which weight loss was achieved, steering away from certain buzz words, or including hidden disclosures. While advertisers could respond by asserting even more outrageous weight loss claims, the prominently displayed disclosures should make consumers sufficiently aware that such statements have not been verified by the government and that the product will not be effective in the absence of diet and exercise. Similarly, although the rule would not prevent advertisers from making unsubstantiated claims regarding the extent to which weight loss is greater with the product than with diet and exercise alone, the centrality of the disclosed information may cause individuals to become increasingly wary of

unrealistic, dramatic assertions. Additionally, if individuals are encouraged to consume products in combination with diet and exercise, rather than as an alternative, they may be more likely to achieve weight loss and experience health benefits.

There are several challenges, however, associated with enacting the proposed rule. First, political and industry pressures have occasionally thwarted the Commission's ability to promulgate TRRs. For instance, in the mid-1960s, the FTC issued the "Cigarette Rule," which would have required all cigarette labels and advertisements to disclose the link between smoking tobacco and the increased risk of death (McAuliffe, 1988). Shortly after the final rule was published, however, Congress requested that the FTC delay the rule's effective date so that representatives could pass related legislation. In 1965, Congress enacted the Cigarette Labeling and Advertising Act, which not only replaced the FTC's disclosure with a watered-down version that did not apply to advertising, but also prohibited the Commission from mandating any further health disclosures in smoking advertisements for several years (Institute of Medicine, 1994). While the current weight loss supplement industry is not nearly as powerful as the tobacco industry in the 1970s, this example demonstrates how external vested interests can impede the FTC's ability to implement common sense rules in the interest of public health.

Second, although the 1975 passage of the Magnuson-Moss Warranty Act reaffirmed the Commission's authority to issue TRRs, it also made the process of doing so considerably more taxing (Berg, 1979). According to the law, in order to issue a new rule, the FTC must first conduct an industry-wide investigation, prepare draft reports, submit a final proposal, and hold public hearings (Koch and Martin, 1983). Due to these

additional hurdles, proposed TRRs often fail to be adopted (Berg, 1979). Third, since 1992, the FTC's has carried out a regulatory review program that reevaluates all rules and guidelines on a 10-year cycle. Remarkably, since the program's inception, roughly half of all rules and guides have been repealed (FTC, 2011). While this may signal a benefit since it permits the FTC to adapt TRRs as necessary to keep pace with evolving industries, it may also present a challenge due to the additional opportunities it creates for external obstruction. As a result, in order for the proposed TRR to be successful, the FTC must not only consider the impact of its content, but also the most effective means of overcoming downstream procedural challenges.

When developing its strategy, it is crucial that the FTC contemplates how best to govern weight loss products disseminated online as well as via TV and print magazines. While TV and print advertisements comprised the majority of advertising expenditures during the period presented in this thesis, online advertisements account for a larger proportion of the marketing to which consumers are exposed each year (DeLorme et al., 2012). Furthermore, recent consumer surveys reveal that nearly half of all dietary supplement users, and the majority of young consumers, purchase their supplements over the internet (Consumer Lab, 2012). This trend is supported by digital marketing agencies' ability to collect detailed information on consumers and use it to target individuals' advertising content. While the FTC has already taken some steps, such as issuing guidelines and securing individual enforcement victories, it must be more proactive to ensure adequate consumer protection (FTC, 2013). Due to the decentralized yet personalized nature of online advertising, existing tactics are likely to be even less

sufficient than in other contexts (FTC, 2017). The Commission must recognize, therefore, the need to engage in rulemaking and enforcement strategies specific to each media type.

In the pursuit of economic efficiency, it is also critical to acknowledge the limitations of consumer education by the provision of standardized information. For instance, even if the proposed rule was adopted, due to conflicting statements and individuals' strong desire to lose weight, consumers may discount mandated disclosures. As a result, without additional regulations, the proposed rule may be unable to correct the market failure since consumers may still unwittingly purchase ineffective or unsafe products. Similarly, individuals' utility maximization is not the government's only concern. As previously discussed, a large portion of the costs associated with obesity is borne by third parties in society rather than by the individuals who are overweight. Consequently, since weight loss supplements have not been shown to be effective and have at times been found to be unsafe, the government may find direct market intervention to be more effective than consumer education in correcting market failure. Since certain demographic groups are more susceptible to weight loss fraud than others, policy makers must also weigh the ideals of economic efficiency against concerns for societal equity.

REFERENCES

Allison, D.B., Fontaine, K.R., Heshka, S., Mentore, J.L. and Heymsfield, S.B. (2001). Alternative Treatments for Weight Loss: A Critical Review. *Critical Reviews in Food Science and Nutrition*, 41(1), 1-28.

Anderson, K.B. (2013). Consumer Fraud in the United States, 2011: The Third FTC Survey. The Federal Trade Commission.

Anderson, P.M., Butcher, K.F., and Levine, P.B. (2003). Economic Perspectives on Childhood Obesity. *Economic Perspectives*.

Anthony, S. F. (2002). Combating Deception in Dietary Supplement Advertising: Remarks before the Food and Drug Law Institute 45th Annual Education Conference. The Federal Trade Commission.

Arena, C.V., Burton, W.N., Padiyar, K.R., and Schwerha, J.J. (2006). The Impact of Body Mass Index on Short-Term Disability in the Workplace. *Journal of Occupational and Environmental Medicine*, 48(11), 1118-1124. DOI:10.1097/01.jom.0000241050.26059.2b.

Avery, R. J., Cawley, J. H., Eisenberg, M., and Cantor, J. (2013). Raising Red Flags: The Change in Deceptive Advertising of Weight Loss Products after the Federal Trade Commission's 2003 Red Flag initiative. *Journal of Public Policy and Marketing*, *32*(1), 129–139. https://doi.org/10.1509/jppm.11.115.

Avery, R.J., Eisenberg, M.D., Cantor, J.H. (2017). An Explanation of Structure-Function Claims in Dietary Supplement Advertising in the U.S.: 2003-2009. *Preventative Medicine*, 97, 86-92. https://doi.org/10.1016/j.ypmed.2017.01.008.

Azcuenaga, M.L. (1997). The Role of Advertising and Advertising Regulation in the Free Market. The Turkish Association of Advertising Agencies, Conference on Advertising for Economy and Democracy. Federal Trade Commission.

Beales, H. (2002). Prepared Statement of the Federal Trade Commission before the Committee on Governmental Affairs Subcommittee on Oversight of Government Management, Restructuring and the District of Columbia. United States Senate.

Beales, H. (2003). Red Flag Bogus Weight Loss Claims: A Reference Guide for Media on Bogus Weight Loss Claim Detection. Federal Trade Commission.

Berg, K.R. (1979). Reccomendations and Reports – 1979. Administrative Conference of the United States.

Biener, A., Cawley, J., and Meyehoefer, C. (2017). The Impact of Obesity on Medical Care Costs and Labor Market Outcomes in the United States. Clinical Chemistry 46(1). Doi:10.137/clinchem.2017.272450.

Block, J. P., and Roberto, C. A. (2014). Potential Benefits of Calorie Labeling in Restaurants. *JAMA*, *312*(9), 887–888. http://doi.org/10.1001/jama.2014.9239.

Brown, A. (2013). Americans' Desire to Shed Pounds Outweighs Effort. *Gallup Inc*.

Burstein, D. (2017). Which Advertising Channels Consumers Trust Most and Least when Making Purchases. MarketingSherpa Customer Satisfaction Research Study.

Calfee, J.F. (1985). Cigarette Advertising, Health Information and Regulation before 1970. Working Paper No. 134. Bureau of Economics Federal Trade Commission.

Cawley, J., and Hinke Kessler Scholder, S. (2016). The Demand for Cigarettes as Derived from the Demand for Weight Control. Health Economics, 25(1): 8-23. (DOI): 10.3386/w18805.

Cawley, J., and Ruhm, C.J. (2011). "Chapter Three-The Economics of Risky Health Behaviors" Handbook of Health Economics. NBER Working Paper Np. 17081, 2, 95-199. (DOI): 10.3386/w17081.

Cawley, J., Eisenberg, M., and Avery, R. (2013). The Effect of Deceptive Advertising on Consumption of the Advertised Food and its Substitutes: The Case of Over-theCounter Weight Loss Products. *The National Bureau of Economic Research*, No.18863.

Cawley, J., Meyerhoefer, C. (2012). The Medical Care Costs of Obesity: an Instrumental Variable Approach. *Journal of Health Economics*. 31(1), 219-230.

Cawley, J., Meyerhoefer, C., Biener, A., Hammer, M., and Wintfeld, N. (2015). *Parmacoeconomics*, 33(7), 707-722 doi: 10.1007/s40273-014-0230-2.

Centers for Disease Control and Prevention (CDC). (2015). Losing Weight.

Centers for Medicare and Medicaid Services. (2011). Medicare Covers Screening and Counselling for Obesity.

Chou, S.Y., Grossman, M., and Saffer, H. (2004). An Economic Analysis of Adult Obesity: Results from the Behavioral Risk Factor Surveillance System. *Journal of Health Economics*, 23(3) 565-587 DOI: 10.1016/j.jhealeco.2003.10.003.

Church, R.S., Thomas, D.M., Tudor-Locke, C., Katzmarzyk, P.T., Earnest, C.P., Rodarte, R.Q., Martin, C.K., Blaim, S.N., and Bouchard, C. (2011). Trends over 5 Decades in the U.S. Occupation-Related Physical Activity and Their Associations with Obesity. *PLoS ONE*, 6(5): e19657 https://doi.org/10.1371/journal.pone.0019657.

Cleland, R.L., Gross, W.C., Koss, L.D., Daynard, M., and Muoio, K.M. (2002). Weight-Loss Advertising: An Analysis of Current Trends. A Federal Trade Commission Staff Report.

Cleveland Clinic. (2017). Obesity is top cause of preventable life-years lost, study shows. *ScienceDaily*. Retrieved March 5, 2018 from www.sciencedaily.com/releases/2017/04/170422101614.htm.

Code of Federal Regulations. (2017). 21CFR101.93. Food and Drug Administration Department of Health and Human Services, 2(1).

Committee on Small Business House of Representatives. Deception and Fraud in the Diet Industry Part II. Hearing before the Subcommittee on Regulation, Business Opportunities and Energy of the Committee on Small Businesses. One Hundred First Congress Second Session. Serial No. 101-57 U.S.

Consoli, J. (2012). Looking to Reach Women in Daytime TV? Syndication is a Solid Alternative. Broadcasting and Cable.

Consterdine, G. (2009). The Case for Magazine Advertising: The Research Evidence. *Periodical Publishers Association of Ireland*.

Consumer Lab. (2012). Fish Oil and Multivitamins Most Popular Supplements in ConsumerLab.com Survey-Internet Most Popular Place to Shop.

Council for Responsible Nutrition (CRN). (2017). CRN 2017 Annual Survey on Dietary Supplements.

Council for Responsible Nutrition (CRN). (2017). Economic Impact of the Dietary Supplement Industry.

Cutler, D.M., Glaeser, E.L. and Shapiro, J.M. Why Have Americans Become more Obese? *Journal of Economic Perspectives*, 17(3), 93-118.

Davis, R. M. (2000). *Healthy People 2010*: objectives for the United States : Impressive, but unwieldy. *BMJ : British Medical Journal*, *320*(7238), 818–819.

Dee, A., Kearns, K., O'Neill, C., Sharp, L., Staines, A., O'Dwyer, V., Fitzgerald, S., and Perry I.J. (2014). The Direct and Indirect Costs of Both Overweight and Obesity: A Systematic Review. *BMC Research Notes*, 7(242).

DeLorme, D.E., Huh, J., Reid, L.N and An, S. (2012). Dietary Supplement Advertising in the US; A Review and Research Agenda. *International Journal of Advertising*, 31(3), 547-577.

Desilver, D. (2016). What's on your Table? How America's Diet has Changed over the Decades. *Pew Research Center*.

Dor, A., Ferguson, C., Langwith, C., and Tan, E. (2010). The George Washington University School of Public Health and Health Services Department of Health Policy.

Dor, A., Ferguson, C., Langwith, C., and Tan, E. (2010). The Heavy Burden: The Individual Costs of Being Overweight and Obese in the United States. The George Washington University School of Public Health and Health Services.

Earst, T.S. (2009). Advertising Food Products Understanding the Regulatory Mix. *American Bar Association*, 18(5).

Efrat, M.A., and Efrat, R. (2012). Tax Policy and the Obesity Epidemic. *Journal of Law and Health*, 25(2).

Eisenberg, M.D., Avery, R.J., and Cantor, J.H. (2017). Vitamin Pancea: Is Advertising Fueling Demand for Products with uncertain scientific benefit? *Journal of Health Economics*, 55, 30-44. https://doi.org/10.1016/j.jhealeco.2017.06.003.

Elbel, B., Kersh, R., Brescoll V.L. and Dixon, L.B. (2009). Calorie labeling and food choices: a first look at the effects on low-income people in New York City. *Health Affairs*, 28(6), 1110-1121.

Euromonitor International. (2017). Weight Management and Wellbeing: Trends and Innovations.

Fabricant, D. (2013). Dietary Supplements Containing Unsafe Food Additive Destroyed. Food and Drug Administration.

Fair, L. (2008). Federal Trade Commission Advertising Enforcement. Federal Trade Commission, 1-72.

Federal Trade Commision. (2008). A Brief Overview of the Federal Trade Commission's Investigative and Law Enforcement Authority.

Federal Trade Commission vs. Bronson Partners, LLC, d/b/a New England Diet Center, and Bronson Day Spa, and Martin Howard. Civil No. 304CV1866. (District of Connecticut, 2004).

Federal Trade Commission vs. Bronson Partners, LLC, d/b/a New England Diet Center; Martin Howard; HandH Marketing, LLC; and Sandra Howard. 10-878 (U.S. Court of Appeals for the 2nd Circuit, 2010).

Federal Trade Commission vs. National Urological Group, Inc., d/b/a Warner Laboratories, National Institute for Clinical Weight Loss., and Hi-Tech Pharmaceuticals, Inc., corporations, Jared Wheat and Thomasz Holda individually and as officers of the corporations, Michael Howwell and Stephen Smith, individually and as officers of National Urological Group, Inc., and National Institute for Clinical Weight Loss, Inc., and Terrill Mark Wright, M.D., individually. Civil No. 1:04-CV-13294. (Northern District of Georgia, 2004).

Federal Trade Commission. (1930). Federal Trade Commission Decisions: Findings and Orders of the Federal Trade Commission November 5, 1926, to January 29, 1928. McGowan Laboratories, Inc., et al. Syllabus In the Matter of McGowan Laboratories, Inc. and Womanhood Publishing Corporation. 125-132.

Federal Trade Commission. (1987). Annual Report of the Federal Trade Commission for the Fiscal Year Ended September 30, 1985.

Federal Trade Commission. (1990). Opperating Mannual, Capter Seven: Rulemaking. Office of Management and Budget.

Federal Trade Commission. (1996). Anticipating the 21st Century: Consumer Protection Policy in the New High-Tech Global Marketplace. The Bureau of Consumer Protection.

Federal Trade Commission. (1997). FTC Announces "Operation Waistline"—a Law Enforcement and Consumer Education Effort Designed to Stop Misleading Weight Loss Claims.

Federal Trade Commission. (1998). Commercial Weight Loss Products and Programs What Consumers Stand to Gain and Lose; A Public Conference on the Information Consumers Need to Evaluate Weight Loss Products and Programs; Report of the Presiding Panel.

Federal Trade Commission. (2001). Dietary Supplements: An Advertising Guide for Industry.

Federal Trade Commission. (2002). FTC Staff Provides the FDA with Comments on First Amendment Commercial Speech Doctrine. Bureaus of Consumer Protection and Economics and the Office of Policy Planning.

Federal Trade Commission. (2003). Deception in Weight- Loss Advertising Workshop: Seizing Opportunities and Building Partnerships to Stop Weight-Loss Fraud.

Federal Trade Commission. (2004). FTC Launches Big Fat Lie Initiative Targeting Bogus Weight-Loss Claims.

Federal Trade Commission. (2005). 2004 Weight-Loss Advertising Survey. Staff Report.

Federal Trade Commission. (2007). Court Decisions Fiscal Year 2007.

Federal Trade Commission. (2009). FTC Publishes Final Guides Governing Endorsements, Testimonials.

Federal Trade Commission. (2009). Guides Concerning the Use of Endorsements and Testimonials in advertising. 16 CFR Part 255.

Federal Trade Commission. (2011). Regulatory Review Plan: Ensuring FTC Rules Are Up-to-Date, Effective, and Not Overly Burdensome.

Federal Trade Commission. (2013). .com Disclosures: How to Make Effective Disclosures in Digital Advertising.

Federal Trade Commission. (2015). Trade Regulation Rule Concerning Cool-Off Period for Sales Made at Homes or at Certain Other Locations. Federak Registrar, 16 CFR 429; RIN 3084-AB10.

Federal Trade Commission. (2017). Internet Marketers of Dietary Supplement and Skincare Products Banned from Deceptive Avertising and Billing Practices. Bureau of Consumer Protection.

Federal Trade Commission. (2017). U.S. District Court Rules in FTC's Favor, Imposes $40 Million Judgement Against Weight-Loss Supplement Marketers for Order Violations. Bureau of Consumer Protection.

Federaleral Trade Commission. (2014). Sensa and Three Other Marketers of Fad Weight-Loss Products Settle FTC Charges in Crackdown on Deceptive Advertising: Sensa to Pay $26.5 Million in Consumer Refunds. Federal Trade Commission Press Release.

Finkelstein, E., DiBonaventura, M., Burgess, S., and Hale, Brent. (2010). The Cost of Obesity in the Workplace. *Journal of Occupational and Environmental Medicine*. 52(10).

Finkelstein, E.A., Fiebelkorn, I.C., and Wang, G. (2003). National Medical Spending Attributable to Overweight and Obesity: How Much, and Who's Paying? *Health Affairs*, 22. doi:10.1377/hlthaff.w3.219.

Finkelstein, E.A., Khavjou O.A., Thompson, H., Trogdon, J.G., Pan, L., Sherry, B., and Dietz, W. (2012). Obesity and Severe Obesity Forecasts Through 2030. *American Journal of Preventative Medicine*, 42(6), p. 563-570.

Finkelstein, E.A., Trogdon, J.G., Cohen, J.W., and Deitz, W. (2009). Annual Medical Spending Attributable to Obesity: Payer-And Service-Specific Estimates. *Health Affairs*, 28(5) HTTPS://DOI.ORG/10.1377/HLTHAFF.28.5.W822.

Finucane, M. M., Stevens, G. A., Cowan, M. J., Danaei, G., Lin, J. K., Paciorek, C. J., and Ezzati, M. (2011). National, regional, and global trends in body-mass index since 1980: systematic analysis of health examination surveys and epidemiological studies with 960 country-years and 9·1 million participants. *The Lancet*, *377*(9765), 557–567. https://doi.org/10.1016/S0140-6736(10)62037-5.

Food and Drug Administration. (2000). Regulations on Statements Made for Dietary Supplements Concerning the Effect of the Product on the Structure or Function of the Body; Final Rule. Department of Health and Human Services, 65(4).

Food and Drug Administration. (2002). Guidance for Industry: Structure/ Function Claims; Small Entity Compliance Guide.

Food and Drug Administration. (2015). Beware of Products Promising Miracle Weight Loss.

Food and Drug Administration. (2017). Tainted Weight Loss Products.

Fryar, C. D., Carroll, M. D., and Ogden, C. L. (2012). Prevalence of Overweight, Obesity, and Extreme Obesity Among Adults: United States, Trends 1960-1962 Through 2009-2010. *CDC/NCHS, NHANES*.

Gahche, J., Bailey, R., Burt, V., Hughes, J,m Yetley, E., Dwyer, J., Picciano, M.F., McDowell, M., and Sempos, C. (2011). Dietary Supplement Use Among U.S. has Increased since NHANES III (1988-1994). *NCHS Data Brief*, 61, 1-8.

Galloway, C.S. (2003). The First Amendment and FTC Weight-Loss Advertising Regulation. *The Journal of Consumer Affairs*, 37(2), p. 413-423.

Gathani, M. (2016). Internet of Thinds Report: The FTC Oversepped its Agency Rulemaking Authority. *Business and Public Administration Studies*, 10(1).

Gazmararian, J.A., Frisvold, D., Zhang, K., and Koplan, J.P. (2015). Obesity is Associated with an Increase in Pharmaceutical Expenses Among University Employees. *Journal of Obesity*. doi: 10.1155/2015/298698.

Geller, A.I., Shehab, N., Weidle, N.J., Lovegrove, M.C., Wolpert, B.J., Timbo, B.B., Mozersky, R.P., and Budnitz, D.S. (2015). Emergency Department Visits for Adverse Health Events Related to Dietary Supplements. *The New England Journal of Medicine*, p.375-1532.

Gilhooley, M. (2001). Deregulation and the Administrative Role: Looking at Dietary Supplements. *Montana Law Review*, 62(1).

Government of Canada. (n.d.). Pathways for Licensing Natural Health Product Making Modern Health Claims. Health Canada.

Gross, J.E. (2007). The First Amendment and Diet Industry Advertising: How Puffery in Weight-Loss Advertisements has Gone Too Far. *Journal of Law and Health*, 20, p. 325-355.

Hales, C. M., Carroll, M. D., Fryar, C. D., and Ogden, C. L. (2017). Prevalence of Obesity Among Adults and Youth: United States, 2015-2016. *NCHS Data Brief*, (288), 1–8.

Hall, K. D., Sacks, G., Chandramohan, D., Chow, C. C., Wang, Y. C., Gortmaker, S. L., and Swinburn, B. A. (2011). Quantification of the effect of energy imbalance on bodyweight. *Lancet*, *378*(9793), 10.1016/S0140–6736(11)60812–X. http://doi.org/10.1016/S0140-6736(11)60812-X.

Heinrich, J. (2002). Dietary Supplements for Weight Loss Limited Federal Oversight Has Focused More on Marketing than on Safety. Testimony before the Subcommittee on Oversight of Government Management, Restructuring, and the District of Columbia, Committee on Governmental Affairs, U.S. Senate. GOA-02-985T.

Hill, J.O., Wyatt, H.R., and Peters, J.C. (2012). Energy Balance and Obesity. *Circulation*, 126 (1), 126-132. https://doi.org/10.1161/CIRCULATIONAHA.111.087213.

Institute of Medicine (2014) Committee on Preventing Nicotine Addiction in Children and Youths; Lynch BS, Bonnie RJ, editors. Growing up Tobacco Free: Preventing Nicotine Addiction in Children and Youths. Washington (DC): National Academies Press (US); 1994. 8, Regulation of the Labeling, Packeging, and Contents of Tobacco Products.

Johnsen, M. (2016). VCS, Diet and Sports Nutrition Report 2016. *ECRM*.

Kapoor, A., and Sharfstein, J. M. (2016) Breaking the gridlock: Regulation of dietary supplements in the United States. *Drug Test. Analysis*, 8: 424–430. doi: 10.1002/dta.1892.

Kastak, M., and Mazis, M. (2004). Effects of Consumer Testimonials in Weight Loss, Dietary Supplement and Business Opportunity Advertisements. Report Submitted to the Federal Trade Commission.

Khaodhiar, L., McCowen, K. C., and Blackburn, G. L. (1999). Obesity and its comorbid conditions. *Clinical Cornerstone*, *2*(3), 17–31.

Kiszko, K. M., Martinez, O. D., Abrams, C., and Elbel, B. (2014). The influence of calorie labeling on food orders and consumption: A review of the literature. *Journal of Community Health*, *39*(6), 1248–1269. http://doi.org/10.1007/s10900-014-9876-0.

Koch, C.H. & Martin, B. (1983). FTC Rulemaking through Negotiation. *North Carolina Law Review*, 61(2) p. 275-311.

Kruger, J., Galuska, D. A., Serdula, M. K., and Jones, D. A. (2004). Attempting to lose weight: specific practices among U.S. adults. *American Journal of Preventive Medicine*, *26*(5), 402–406. https://doi.org/10.1016/j.amepre.2004.02.001.

Kruger, J., Galuska, D.A., Serdula, M.K., and Jones, D.A. (2004). Attempting to Lose Weight: Specific Practices Among U.S. Adults. *American Journal of Preventative Medicine*, 26(5), 402-406. DOI: 10.1016/j.amepre.2004.02.001.

Kyle, TK., Nadglowski, J.F.., Claridy, M.D., and Stanford, F.C. (2015). US Employee Wellness Programs and Access to Obesity Treatment in Employer-Sponsored Health Insurance. *Evidenced-Based Diabetes Management.*

Lellis, J. C. (2016). Waving the Red Flag: FTC Regulation of Deceptive Weight-Loss Advertising 1951–2009. *Health Communication*, *31*(1), 47–59. https://doi.org/10.1080/10410236.2014.936334.

Lempert, D., Women's Increasing Wage Penalties from Being Overweight and Obese. (2007). U.S. Bureau of Labor Statistics.

Long, J. (2017) Dietary Supplement Industry Bullish on Trump Administration, 115th Congress. *Natural Products Insider.*

MacLean, P. S., Bergouignan, A., Cornier, M.-A., and Jackman, M. R. (2011). Biology's response to dieting: the impetus for weight regain. *American Journal of Physiology - Regulatory, Integrative and Comparative Physiology*, *301*(3), R581–R600. http://doi.org/10.1152/ajpregu.00755.2010.

Mandel, K. (2015). Warning Letter to Marketers of Weight Loss Products. Federal Trade Commission Bureau of Consumer Protection Division of Advertising Practices.

Manore, M. (2012). Dietary Supplements for Improving Body Composition and Reducing Body Weight: Where is the Evidence? *International Journal of Sport Nutrition and Exercise Metabolism*, 22, 139-154.

Manson, M. J., Scammon, N, D. L. and Fang, X. (2007), The Impact of Warnings, Disclaimers, and Product Experience on Consumers' Perceptions of Dietary Supplements. *Journal of Consumer Affairs*, 41: 74-99. doi:10.1111/j.1745-6606.2006.00069.x.

Marketdata LLC. (2017). The U.S. Weight Loss and Diet Control Market.

MarketResearch.com. (2016). U.S. Weight Loss Market Worth $66 Billion.

Masters, R. K., Reither, E. N., Powers, D. A., Yang, Y. C., Burger, A. E., and Link, B. G. (2013). The Impact of Obesity on US Mortality Levels: The Importance of Age and Cohort Factors in Population Estimates. *American Journal of Public Health*, *103*(10), 1895–1901. https://doi.org/10.2105/AJPH.2013.301379.

Masters, R.K., Reither, R.N., Powers, D.A., Yang, C.Y., Burger, A.E., and Link, B.G. (2013). The Impact of Obesity on US Mortality Levels: The Importance of Age and Cohort Factors in Population Estimates. *American Journal of Public Health*, 103 (10), 1895-1901. DOI: 10.2105/AJPH.2013.301379.

McAuliffe, R. (1988). The FTC and the Effectiveness of Cigarette Advertising Regulations. *Journal of Public Policy & Marketing*, 7, p-49-64.

McHugh, M. L. (2012). Interrater reliability: the kappa statistic. *Biochemia Medica*, *22*(3), 276–282.

Monsivais, P., and Drewnowski, A. (2009). Lower- Energy-Density Diets are Associated with Higher Monetary Costs per Kilocalorie and Are Consumed by Women of Higher Socioeconomic Status. *Journal of American Dietetic Association*, 109, 814-822 *doi: 10.1016/j.jada.2009.02.002.*

Muenning, P., Jai, H., Lubetkin, E.I., and Franks, P. (2006). Gender and the Burden of Disease Attributable to Obesity. *American Journal of Public Health*, 96(9), 1662-1668.

Must A, Jacques PF, Dallal GE, Bajema CJ, Dietz WH. (1992). Long-term morbidity and mortality of overweight adolescents. A follow-up of the Harvard Growth Study of 1922 to 1935. *New England Journal of Medicine*, 327(19), 1350-1355.

Must, A., and McKeown, N.M. (2012). The Disease Burden Associated with Overweight and Obesity. Endotext.

National Heart, Lung, and Blood Institute in Cooperation with the National Institute of Diabetes and Digestive and Kidney Diseases. (1998). Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report. NIH Publication No. 98-4083.

National Institute of Diabetes and Digestive Kidney Diseases (NIDDK). (2016). Prescription Medications to Treat Overweight and Obesity. National Institutes of Health.

National Institutes of Health Office of Dietary Supplements. (1994). FDA Prohibits Sales of Dietary Supplements Containing Ephedra.

Navarro, V. (2017). The Frequency of Herbal and Dietary Supplement Mislabeling. *The American Association for the Study of Liver Diseases.*

Nazeri, A., Massumi, A., Willson, J.M., Frank, C.M., Bensler, M., Cheng, J., Saeed, M., Rasekh, A., and Razavi, M. (2009). Arrhythmogenicity of weight-loss supplements marketed on the Internet. *Heart Rhythm Journal*, 6(5), 658-662. doi: 10.1016/j.hrthm.2009.02.021.

Nelson, J.P. (2006). Cigarette Advertising Regulation: A Meta-Analysis. *International Review of Law and Economics*, 26(2), p. 195-226.

NIH. (2017). Dietary Supplements for Weight Loss Fact Sheet for Health Professionals.

NORC at the University of Chicago. (2016). New Insights into Americans' Perceptions and Misperceptions of Obesity Treatments, And the Struggles Many Face. *American Society for Metabolic and Bariatric Surgery*.

Nowack, R.E. (2010). DSHEA's Failure: Why a Proactive Approach to Dietary Supplement Regulation is Needed to Effectively Protect Consumers. *University of Illonois Law Review*, 2010, p. 1045-1083.

Ogden, C. L., Carroll, M. D., Kit, B. K., and Flegal, K. M. (2014). Prevalence of Childhood and Adult Obesity in the United States, 2011-2012. *JAMA*, *311*(8), 806–814. https://doi.org/10.1001/jama.2014.732.

Open Secrets Center for Responsive Politics. (2018), Nutritional and Dietary Supplements: Lobbying, 2017.

Parks, J.C., Alston, J.M., and Okrent, A.M. (2012). The Marginal External Cost of Obesity in the United States. *Robert Mondavi Institute Center for Wine Economics*.

Partnership for Healthy Weight Management. (1999). Voluntary Guidelines for Providers of Weight Loss Products or Services. Federal Trade Commission.

Partnership for Healthy Weight Management. (2000). Ad Nauseam Campaign. Federal Trade Commission.

Philipson, T.J. and Posner, R.A. (1999). The Long-Run Growth in Obesity as a Function of Technological Change. *Perspectives in Biology and Medicine*, 46(3), 87-108. (DOI): 10.3386/w7423.

Pillitteri, J. L., Shiffman, S., Rohay, J. M., Harkins, A. M., Burton, S. L. and Wadden, T. A. (2008), Use of Dietary Supplements for Weight Loss in the United States: Results of a National Survey. *Obesity*, 16: 790–796. doi:10.1038/oby.2007.136.

Ploeg, M.V. (2010). Access to Affordable, Nutritious Food is limited in "Food Deserts". United States Department of Agriculture and Economic Research Service.

Polivy, J., and Herman, C.P. (2000). The False-Hope Syndrome: Unfulfilled Expectations of Self-Change. *Current Directions in Psychological Science*, 9(4), 128-131. https://doi.org/10.1111/1467-8721.00076.

Pontzer, H., Durazo-Arvizu, R., Dugas, L.R., Cooper, R.S., Schoeller, D.A, and Luke, A. (2016). Constrained Total Energy Expenditure and Metabolic Adaptation to Physical Activity in Adult Humans. *Current Biology,* 26, 410-417. http://dx.doi.org/10.1016/j.cub.2015.12.046.

Ramirez, E. (2014). Strategy Plan for Fiscal Years 2014 to 2018. Federal Trade Commission.

Rampone, A.J., and Reynolds, P.J. (1998). Obesity: Thermodynamic Principles in Perspective. *Life Sciences*, 43(2), 93-110. https://doi.org/10.1016/0024-3205(88)90286-X.

Robbins, D. (2017). Atlanta Dietary Supplement Mogul Faces New Criminal Charges. *The Atlanta Journal Constitution*.

Robbins, R. (2017). A Supplement Maker Tried to Silence a Harvard Doctor- and put Academic Freedom on Trial. *STAT*.

Rosenheck, R. (2008). Fast Food Consumption and Increased Caloric Intake: A systemic Review of a Trajectory Towards Weight Gain and Obesity Risk. *Obesity Reviews*. doi: 10.1111/j.1467-789X.2008.00477.x.

Rosenthal, R. J., Morton, J., Brethauer, S., Mattar, S., De Maria, E., Benz, J. K., Titus, J., and Sterrett, D. (2017). Obesity in America. *Surgery for Obesity and Related Diseases*, 13(10), 1643-1650. https://doi.org/10.1016/j.soard.2017.08.002.

Schanzenbach, D.W. (2009). Do School Lunches Contribute to Childhood Obesity? *The Journal of Human Resources*, 44(3), 684-709 doi: 10.3368/jhr.44.3.684.

Schwartz, T.M. and Hrdy, A.S. (2004). FTC Rulemaking: Three Bold Initiatives and Their Legal Impact. 90th Anaversary Sypmosium of the Federal Trade Commission Consumer Protection Panel.

Shekelle, P.G., Hardy, M.L., Morton, S.C., Maglione, M., Mojica, W.A., Suttorp, M.J., Rhodes, S.L., Jungvig, L., and Gangé, J. (2003). Efficacy and Safety of Ephedra and Ephedrine for Weight Loss and Athletic Performance: Meta-Analysis. *JAMA*, 289(12), 1537-1545. DOI: 10.1001/jama.289.12.1537.

Simon, G. E., Von Korff, M., Saunders, K., Miglioretti, D. L., Crane, P. K., van Belle, G., and Kessler, R. C. (2006). Association Between Obesity and Psychiatric Disorders in the US Adult Population. *Archives of General Psychiatry*, *63*(7), 824–830. http://doi.org/10.1001/archpsyc.63.7.824.

Sneedell, J.C. (1998) Societal and Personal Costs of Obesity. *Experimental and Clinical Endocrinology and Diabetes*, 106, 7-10 DOI: 10.1055/s-0029-1212029.

Snook, K. R., Hansen, A. R., Duke, C. H., Finch, K. C., Hackney, A. A., and Zhang, J. (2017). Change in Percentages of Adults With Overweight or Obesity Trying to Lose Weight, 1988-2014. *JAMA*, *317*(9), 971–973. https://doi.org/10.1001/jama.2016.20036.

Starr, R.R. (2015). Too Little, Too Late: Ineffective Regulation of Dietary Supplements in the United States. *American Journal of Public Health*, 105(3), 478-485. doi: 10.2105/AJPH.2014.302348.

Steelandt, S., Broihanne, M.H., Romain, A., Thierry, C., and Dufour, V. (2013). Decision- Making under Risk of Loss in Children. *PLoS ONE*, 8(1): e52316. https://doi.org/10.1371/journal.pone.0052316.

Sturm, R. (2009) Affordability and Obesity: Issues in the Multifunctionality of Agricultural/Food Systems, *Journal of Hunger and Environmental Nutrition*, 4(3-4), 454-465, DOI: 10.1080/19320240903336522.

Swann, J. P. *(*2016*)* The history of efforts to regulate dietary supplements in the USA. *Drug Test Analysis*, 8*:* 271–282. doi: 10.1002/dta.1919.

Swindle, O. (2003). Combating Deceptive Advertising- The Role of Advertisers, the Media, and the FTC: Remarks before the Aggressive Advertising and the Law Conference New York, N.Y. Federal Trade Commission.

Technavio. (2018). Global Weight Loss Supplement Market 2018-2022.

The Global BMI Mortality Collaboration. (2016). Body-Mass Index and All-Cause Mortality: Individual-Participant-Data Meta-Analysis of 239 Prospective Studies in Four Continents. *The Lancet*, 388(10045, 776-786.

The Organization for Economic Co-operation and Development (OECD). (2017). Obesity Update 2017.

Timbo, B.B., Chirtel, S.J. and Ihrie, J. (2017). A Review of Dietary Supplement Adverse Event Report Data From the FDA Center for Food Safety and Applied Nutrition Adverse Event Reporting System (CAERS), 2004-2013. *Annals of Pharmacotherapy*.

TNS Media Intelligence. (2009). Ad Spender Data. Online Database Accessed via the University of Minnesota Library (as cited in DeLome et al, 2012).

TNS Media Intelligence. (2011). Ad Spender Data. Online Database Accessed via the University of Minnesota Library (as cited in DeLome et al, 2012)

Trogdon, J. G., Finkelstein, E. A. and Hoerger, T. J. (2008), Use of Econometric Models to Estimate Expenditure Shares. *Health Services Research*, 43: 1442–1452. doi:10.1111/j.1475-6773.2007.00827.x.

United States Department of Agriculture Economic Research Service. (2016). Trends in U.S. Food Expenditures, 1953-2013.

United States of America Before the Federal Trade Commission In the Matter of John Matthew Dwyer III, a/k/a Matthew Dwyer, Individually. Docket No. C-4492.

Varney, C. (1996). To Your Health: An FTC Review of Safety Related Marketing. The 1996 International Consumer Product Health and Safety Organization Symposium. Federal Trade Commission.

Wang, C.Y., Pamplin, J., Long, M.Q. Ward, Z., and Gortmaker, S.L. (2015). Severe Obesity in Adults Cost State Medicaid Programs Nearly $8 Billion in 2013. *Health Affairs*, 34(11), 1923-1933.

Wang, Y., Beydoun, M. A., Liang, L., Caballero, B. and Kumanyika, S. K. (2008), Will All Americans Become Overweight or Obese? Estimating the Progression and Cost of the US Obesity Epidemic. *Obesity*, 16: 2323–2330. doi:10.1038/oby.2008.351.

Waters, H., DeVol, R. (2016). Weighing Down America: The Health and Economic Impact of Obesity. *Milken Institute.*

Willbond, S.M.., Duval, K., Laviolette, M.A., and Doucet, E. (2010). Normal Weight Men and Women Overestimate Exercise Energy Expenditure. *The Journal of Sports Medicine and Physical Fitness*, 50(40), 377-384.

World Health Organization: Global Database on Body Mass Index. (n.d.). Retrieved March 4, 2018, from http://apps.who.int/bmi/index.jsp?introPage=intro_3.html.

Wright, S. M., and Aronne, L. J. (2012). Causes of obesity. *Abdominal Radiology*, *37*(5), 730–732. https://doi.org/10.1007/s00261-012-9862-x.

Wyden, R. (1990). Juvenile Dieting, Unsafe Over-the-Counter Products, and Recent Enforcement Efforts by the Federal Trade Commission. House of Representatives Subcommittee on Regulation, Business Opportunities, and Energy, Committee on Small Business. Serial No. 101-80.

Zell-Kanter, M., Quigley, M.A., and Leikin, J.B. (2015). Reduction in Ephedra Poisonings after FDA Ban. *New England Journal of Medicine*, 372, 2172-2174. DOI: 10.1056/NEJMc1502505.

APPENDICES

Appendix A: BMI Categorizations, DSHEA Definitions and Annual Trends in FTC Complaint Filings

Table 28: A.1: World Health Organization BMI Classifications

Classification	Principal BMI Cut-off Points
Underweight	**<18.50**
Severe Thinness	<16.00
Moderate Thinness	16.00=16.99
Mild Thinness	17.00-18.49
Normal Range	**18.50-24.99**
Overweight	**≥25.00**
Pre-Obese	25.00-29.99
Obese	**≥30.00**
Obese Class I	30.00-34.99
Obese Class II	35.00-39.99
Obese Class III	≥40.00

Note: Table adapted from WHO, 2018

Table 29: A.2: Abbreviated Definitions from DSHEA

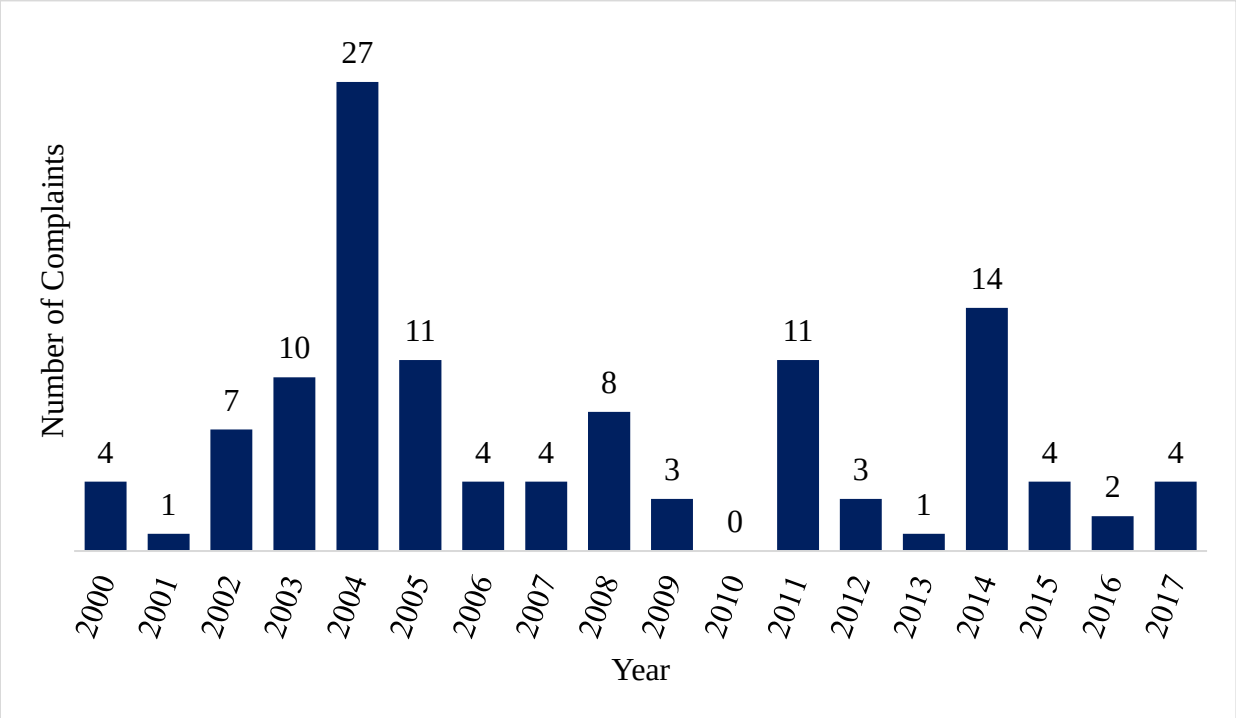
Term	Definition	Source
Dietary Supplement	A product (other than tobacco) intended to supplement the diet that bears or contains one or more of the following dietary ingredients: a vitamin; mineral; herb or other botanical; amino acid; a dietary substance for use by man to suplement the diet by increasing the total dietary intake; or a concentrate, metabolite, constituent, extract, or combination on any ingredient described above.	Adapted from: Dietary Supplement Health and Education Act of 1994. Public Law 102-417
Structure-Function Claim	"Statements that describe the role of a nutrient or dietary ingredient intended to affect the structure or function in humans or that characterize the documented mechanism by which a nutrient or dietary ingredient acts to maintain such structure or function, provided that such statements are not a disease claim…"	101.93 – CFR Code of Federal Regulations Title 21

Disease Claim	"A statement about a product claims to diagnose, mitigate, treat, cure or prevent disease (other than a classical nutrient deficiency)…"	101.93 – CFR Code of Federal Regulations Title 21
Misbranded Supplement	The label fails to list: i) the name of each ingredient; ii) the quantity of each ingredient; iii) the product as a "dietary supplement" or if the supplement "fails to have the identity and strength that the supplement is represented to have" or "fails to meet the quality (including tablet or capsule disintegration), purity, or compositional specifications, based on validated assay or other appropriate methods, that the supplement is represented to meet."	Adapted from: 101.93 – CFR Code of Federal Regulations Title 21
Adulterated Supplement	If a dietary supplement or its ingredients present "a significant or unreasonable risk of illness or injury under (i) conditions of use recommended or suggested in labeling, or (ii) if no conditions of use are suggested or recommended in the labeling, under ordinary conditions of use". A supplement is also adulterated if it contains a new dietary ingredient for which there is inadequate information to provide reasonable assurance that such ingredient does not present a significant or unreasonable risk of illness or injury"	Adapted from: 101.93 – CFR Code of Federal Regulations Title 21

Figure 16: A.3: Permissible Function Claim Express Health Pro Coleus Forskohli Supplement

Example of Structure-Disclosure Forskolin Dietary

Figure 17: Appendix A.3 Complaints Filed by the FTC Against the Over-the-Counter Weight Loss Product Industry



Note: Cases were obtained via a 2018 Freedom of Information Act request filed with the FTC.

Appendix B: Additional Data Characteristics

Figure 18 Appendix B.1: Monthly Trends in Print and TV Ad Airings for Products Covered by the FTC's Red Flag Guidelines

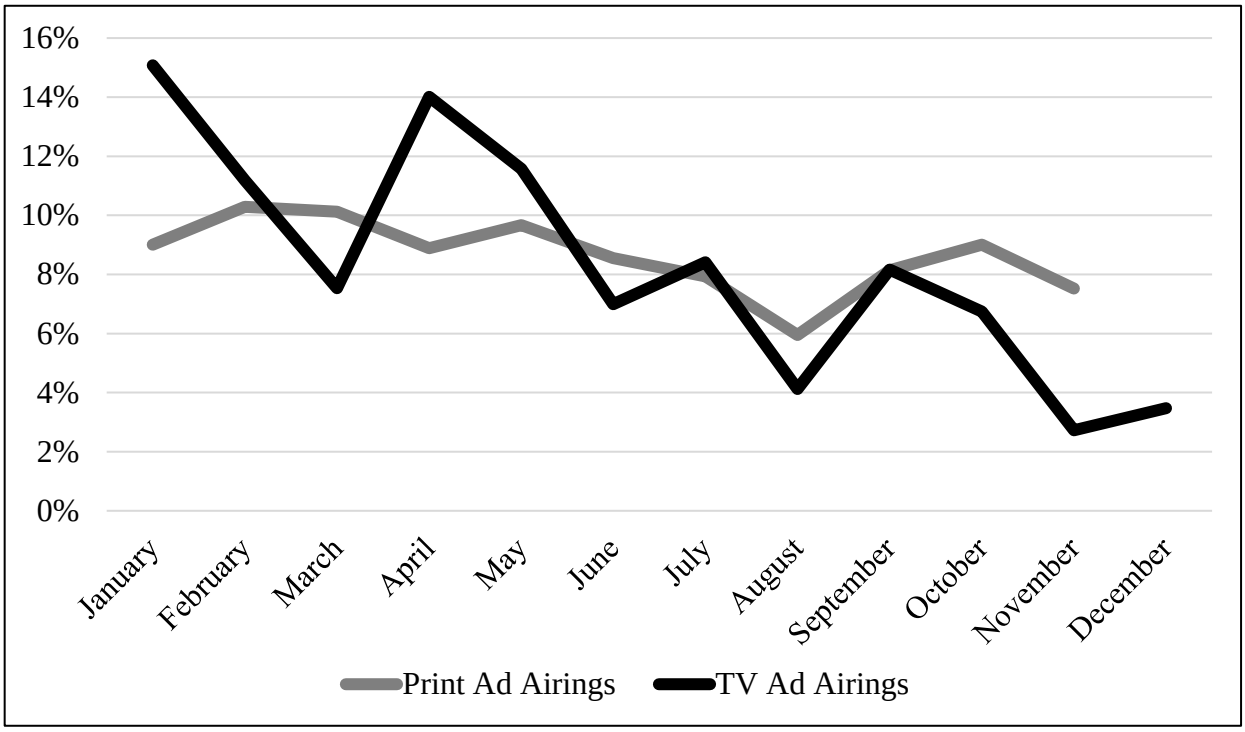
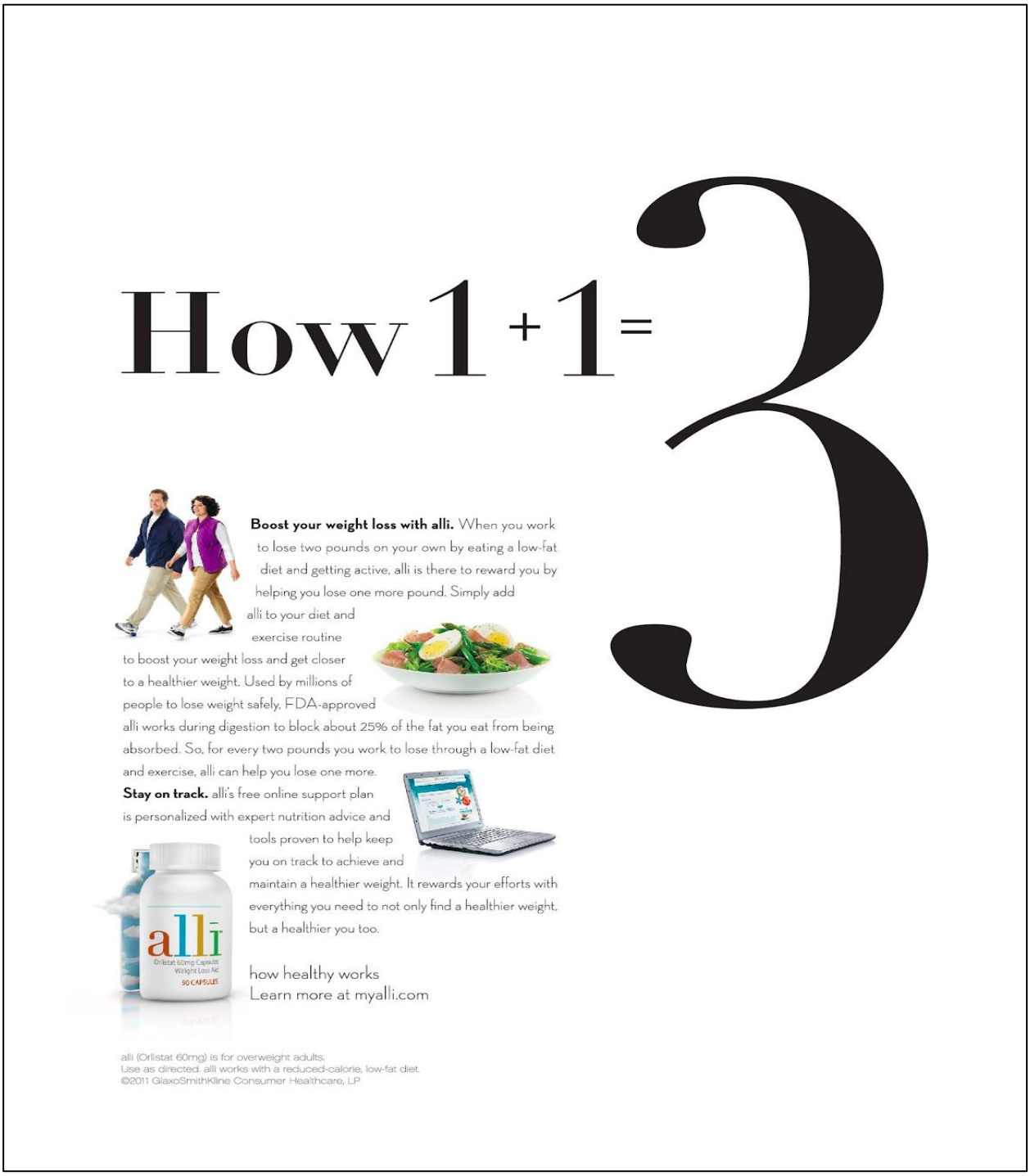


Figure 19 Appendix B.2: Example of Advertisement Not Covered by Red Flag Guidelines & Excluded from Analysis

Figure 20 Appendix B.3: Example of Alli Advertisement Excluded from Analysis



Appendix C: Referenced Results

Table 30: C.1: Top 20 Print Magazines that Published Ads Containing Explicit Red Flags

Magazine Publication	Total Number of Ads per Magazine	Number of Explicit Red Flag Ads per Magazine	Percent of Total Explicit Red Flag Ads
OK Weekly	245	82	11.48%
Star	261	72	10.08%
National Enquirer	186	58	8.12%
Woman's World	165	56	7.84%
First For Women	124	49	6.86%
Flex	220	45	6.30%
Muscle & Fitness	166	36	5.04%
Shape Magazine	90	29	4.06%
Life & Style Weekly	146	29	4.06%
In Touch Weekly	161	28	3.92%
Woman's Day	43	27	3.78%
Parade	29	24	3.36%
USA Weekend	30	17	2.38%
Cosmopolitan	32	16	2.24%
US Weekly	111	12	1.68%
Soap Opera Digest	24	11	1.54%
Redbook	22	11	1.54%
Health	20	10	1.40%
Texas Monthly	9	9	1.26%
Ladies' Home Journal	17	9	1.26%
All Others[7]	252	84	11.76%

[7] All others includes: American Profile, Southern Living, Fitness, Family Circle, Relish, Self, Allure, Orange Coast, More, Latina, Men's Fitness, Prevention, Natural Health, Bride's, Women's Health, Nash Country Weekly, People, Ocean Drive Magazine, Spry Living, TV Guide, Rachael Ray Every Day, In Style, Dash, Working Mother, Fit Pregnancy & Baby, and Men's Journal

Table 31: C.2: Top 20 TV Networks that Published Ads Containing Explicit Red Flags

Network Affiliation	Total Number of Ads per Network	Number of Explicit Red Flag Ads per Network	Percent of Total Explicit Red Flag Ads
WLMT	3,406	2,992	3.88%
WNYA	3,156	2,403	3.12%
WCWG	2,133	1,820	2.36%
MTVC	3,511	1,808	2.35%
WNLO	2,342	1,770	2.30%
WUHF	2,201	1,744	2.26%
LMN	3,308	1,619	2.10%
WMYA	2,596	1,562	2.03%
WUPL	1,797	1,547	2.01%
WABM	2,198	1,502	1.95%
FUSE	6,102	1,235	1.60%
KRON	1,803	1,203	1.56%
MTV	4,052	1,096	1.42%
WFFT	1,510	1,040	1.35%
KAIL	1,754	912	1.18%
KAYU	1,213	909	1.18%
WYCW	1,173	782	1.01%
KSEE	929	746	0.97%
E!	4,215	690	0.90%
VH-1	3,137	670	0.87%
All Others	396,241	49,007	63.60%

Table 32: C.3: Brands with Print Ad Airings That Contained Explicit Red Flags

Brand Name	Total Number of Ads per Brand	Number of Explicit Red Flag Ads per Brand	Percent of Total Explicit Red Flag Ads
Fastin	177	177	24.79%
Sensa	95	92	12.89%
Mulberry	73	72	10.08%
Lichi Superfruit	71	60	8.40%
Relacore	52	51	7.14%
Almased	28	27	3.78%
Hydroxycut	604	27	3.78%
Xenadrine	241	27	3.78%
Endless Youth & Life	18	18	2.52%
Jillian Michaels	70	14	1.96%
VPX	30	12	1.68%
Ultimate Fat Burner	39	10	1.40%
QuickTrim	167	9	1.26%
Ultrafit	8	8	1.12%
Bioptimax Acai	8	8	1.12%
New Nordic	7	7	0.98%
SlimPower	7	7	0.98%
Atro-Phex	24	6	0.84%
Slimmies	12	6	0.84%
Bob Harper Smart	59	6	0.84%
Internal Flush	5	5	0.70%
Releana Weight Loss Program	5	5	0.70%
Rx6	26	5	0.70%
HCG Platinum	8	5	0.70%
6 Week Body Makeover	4	4	0.56%
Thinberry	4	3	0.42%
Life Extension	3	3	0.42%
SlimQuick	144	3	0.42%
Fibractol	3	3	0.42%
Flush The Fat	2	2	0.28%
Phenorex	11	2	0.28%
Tonalin	12	2	0.28%
307 Ultimate	2	2	0.28%
Lipozene	2	2	0.28%

Lipo	91	2	0.28%
PGX Daily	2	2	0.28%
Sveltyl Weight-Loss System	2	2	0.28%
Sveltech 421	2	2	0.28%
Zero Xtreme	2	2	0.28%
Pure Magic Slim	2	2	0.28%
Ultra Fit N Slim	1	1	0.14%
Controlled Labs	1	1	0.14%
Meal Max	1	1	0.14%
Lotus Purity	1	1	0.14%
Cortislim	1	1	0.14%
Bypass 2 Slim Ball	1	1	0.14%
Food Lovers Fat Loss System	1	1	0.14%
Kalor Block	1	1	0.14%
CLA Ultimate	1	1	0.14%
DrainAslim	1	1	0.14%
Natural Weigh	1	1	0.14%
Ignite Maxx	1	1	0.14%

Table 33: C.4: Brands with TV Ad Airings That Contained Explicit Red Flags

Brand Name	Total Number of Ads per Brand	Number of Explicit Red Flag Ads per Brand	Percent of Total Explicit Red Flag Ads
Lipozene	56,797	56797	73.71%
Xenadrine	30,370	6528	8.47%
CentriLean	3,409	3409	4.42%
Jillian Michaels	9,606	3023	3.92%
Zylotrim	2,598	2423	3.14%
Sensa	4,773	2130	2.76%
Healthe Trim	501	501	0.65%
Almased	416	332	0.43%
Lemonade Diet	254	254	0.33%
LA Weight Loss	224	198	0.26%
SlimScents	188	188	0.24%
Flush The Fat	173	173	0.22%
Solution 1-2 Punch	143	143	0.19%
PGX Daily	1,421	131	0.17%
Total Trans4m	114	114	0.15%
Phenterex	113	113	0.15%
Regulene	95	95	0.12%
40 Pounds In 40 Days	440	89	0.12%
Ignite Maxx	65	65	0.08%
QuickTrim	26,221	51	0.07%
Slimmies	33	33	0.04%
Pounds Lost	472	33	0.04%
Jen Fe	29	29	0.04%
Dr Frank Ryans Abdominal Fat Reducer	28	28	0.04%
Shake Away	25	25	0.03%
Boda Extract	25	25	0.03%
LipoFX	22	22	0.03%
Hydroxycut	106,321	21	0.03%
Tree 4 Life	20	20	0.03%
Forever Slim	15	15	0.02%
Estrin D	13	13	0.02%
Mytoslim	12	12	0.02%
LypoFX	10	10	0.01%
Cortislim	9	9	0.01%

Avilean	4	4	0.01%
Thin 4 Good	1	1	0.00%

Table 34: C.5: Print Reliability Estimates

Appendix C.5	Item Reliability Estimates

Print Data

Red Flag Claims			Potentially Deceptive Characteristics			Product Types		
Red Flag	**Percent Agreement**	**Cohen's Kappa**	**Characteristic**	**Percent Agreement**	**Cohen's Kappa**	**Product Type**	**Percent Agreement**	**Cohen's Kappa**
RF 1	99.04	0.943	PDC 1	96.34	0.926	PT 1	98.567	0.300
RF 2	98.57	0.924	PDC 2	98.89	0.975	PT 2	97.611	0.928
RF 3	97.77	0.747	PDC 3	98.25	0.943	PT 3	93.790	0.847
RF 4	96.66	0.931	PDC 4	96.02	0.92	PT 4	92.038	0.818
RF 5	98.57	0.659	PDC 5	96.97	0.836	PT 5	91.242	0.704
RF 6	93.47	0.735	PDC 6	98.09	0.862			
RF 7*	--	--	PDC 7	97.61	0.91			
**Red Flag 7 had insufficient occurrences to produce a Kappa value*			PDC 8	92.36	0.806			

Weight Claim Amounts			Weight Claim Units			Weight Claim Days		
Amount	**Percent Agreement**	**Cohen's Kappa**	**Unit**	**Percent Agreement**	**Cohen's Kappa**	**Days**	**Percent Agreement**	**Cohen's Kappa**
WCA 1	94.586	0.907	WCU 1	98.598	0.836	WCD 1	96.497	0.918
WCA 2	94.586	0.803	WCU 2	91.765	0.776	WCD 2	96.656	0.825
WCA 3	96.815	0.801	WCU 3	89.362	0.608	WCD 3	98.248	0.828
WCA 4	98.089	0.768	WCU 4	95.652	0.916	WCD 4	98.726	0.425
WCA 5	98.089	0.581	WCU 5	81.818	0.672	WCD 5	98.885	0.297
WCA 6	99.204	0.613	WCU 6	100.000	1.000	WCD 6	99.363	0.554
WCA 7	95.701	0.933	WCU 7	99.608	0.971	WCD 7	96.975	0.945

Table 35: C.6: TV Reliability Estimates

Appendix C.6	Item Reliability Estimates							
				A: TV Data				
	Red Flag Claims			Potentially Deceptive Characteristics			Product Types	
Red Flag	Percent Agreement	Cohen's Kappa	Characteristic	Percent Agreement	Cohen's Kappa	Product Type	Percent Agreement	Cohen's Kappa
RF 1	99.160	0.746	PDC 1	96.639	0.926	PT 1	99.160	0.943
RF 2	97.479	0.560	PDC 2	96.639	0.902	PT 2	97.479	0.939
RF 3	99.160	0.885	PDC 3	98.319	0.966	PT 3	97.059	0.917
RF 4	98.739	0.956	PDC 4	91.176	0.782	PT 4	94.958	0.833
RF 5	99.580	0.000	PDC 5	99.580	0.973	PT 5	97.899	0.894
RF 6	96.639	0.649	PDC 6	97.059	0.908			
RF 7	99.580	0.665	PDC 7	98.319	0.931			
			PDC 8	88.655	0.723			
	Weight Claim Amounts			Weight Claim Units			Weight Claim Days	
Amount	Percent Agreement	Cohen's Kappa	Unit	Percent Agreement	Cohen's Kappa	Days	Percent Agreement	Cohen's Kappa
WCA 1	96.639	0.963	WCU 1	100	1	WCD 1	92.437	0.862
WCA 2	97.479	0.639	WCU 2	100	1	WCD 2	97.479	0.493
WCA 3	96.218	0.955	WCU 3	100	1	WCD 3	89.916	0.811
WCA 4	99.580	0.968	WCU 4	93.750	0.906	WCD 4	98.319	0.813
WCA 5	95.798	0.943	WCU 5	100	1	WCD 5	89.916	0.793
WCA 6	98.319	0.744	WCU 6	100	1	WCD 6	97.479	0.564
WCA 7	89.076	0.845	WCU 7	100	1	WCD 7	89.076	0.820

Appendix D: Case Studies Depicting Broad Regulatory Failures

D.1 – Hi-Tech Pharmaceuticals

In the print dataset, the company Hi-Tech Pharmaceuticals- via its ads for Fastin- accounted for more than 25% of the total number of print ads that contained an explicit Red Flag. Fastin's ads appeared in 16 nationally circulated magazines, promised substantial weight loss for all users, did not clearly state the requirement for diet or exercise, claimed to burn fat, and included safety representations via physician endorsements. Importantly, it is simply the case that Hi-Tech has flown under the government's radar. Both the FTC and FDA began to investigate the company in the early 2000s, subsequently took enforcement actions and prevailed, yet were unable to halt future infringement on federal law. Despite years of government action, its products remain available today.

In 2004, the FTC filled its first deceptive advertising complaint against the company for three of its dietary supplements, two of which were weight loss products (FTC v, National Urological Group, Inc. et al., 2004). In 2008, a U.S. District Court found the defendants to be in violation of Section 5 of the FTC Act and barred Hi-Tech from engaging in deceptive conduct in the future as well as ordered the payment of more than $15.8 million in consumer redress (FTC v. National Urological Group, Inc. et al., 2008). The judgment, however, was insufficient to alter Hi-Tech's marketing practices. In 2011, the FTC filed another motion against High-Tech and several of its executives for failing to adequately comply with the 2008 court order. Specifically, the FTC held that Hi-Tech's statements about four products, one of which was Fastin, were not "substantiated by competent or reliable scientific evidence despite such evidence being required by the permanent injunction" (FTC v. National Urological Group, Inc. et al., 2014, p.3). In 2014, two Hi-Tech executives were jailed for failing to comply with court orders. The defendants appealed

the previous ruling, which resulted in years of additional litigation. In late 2017, nearly a decade and a half following initiation of the first enforcement action, the Court imposed a fine of more than $40 million on the company (FTC, 2017).

While litigation between the FTC and Hi-Tech was unfolding, the company was also under fire by the FDA. Since the early 2000s, the FDA has issued public health alerts regarding Hi-Tech's products, published multiple warning letters asserting that their products were found to contain dangerous and illegal substances, twice seized millions of dollars' worth of Hi-Tech's products, and has been involved in multiple lawsuits with the company (Beales, 2003; *United States v. High-Tech Pharmaceuticals, Inc. et al.;* FDA, 2003; FDA, 2017). At the center of these investigations has been Hi-Tech's use of various stimulants in its products, including Fastin, which have either been illegal or not shown to be safe in humans (Cohen, 2015).

For instance, Hi-Tech refused to stop selling products containing ephedra after the substance was banned in 2004, which resulted in the FDA and the U.S. Marshal's Office's seizure of $3 million worth of ephedra-containing products from Hi-Tech in 2006 (FDA, 2007). In 2008, top executives at Hi-Tech pleaded guilty in a U.S. district court to conspiring to import and disseminated adulterated, mislabeled and unapproved new drugs as well as to commit mail and wire fraud (Robbins, 2017). Several top executives were forced to pay a financial penalty and were subsequently incarcerated. The CEO and President of Hi-Tech, Jared Wheat, admits to developing the marketing plans for Fastin, as well as three other dietary supplements, while serving his prison sentence for these charges, all of which have since been under investigation by the FDA

In 2013, the FDA seized $2 million of Hi-Tech's products, including Fastin, for containing an illegal stimulant known as DMAA. Hi-Tech subsequently sued the FDA, with

litigation on the matter continuing until October 2017 (Long, 2017). Fastin is currently made with a stimulant related to DMAA, known as BMPEA, which has not been tested in humans (Cohen, 2015). In 2015, a Harvard professor, Dr. Pieter Cohen, and his colleagues published an article on the prevalence of BMPEA in certain dietary supplements. Of the 21 dietary supplements tested, 11 contained BMPEA, six of which were manufactured by Hi-Tech. Shortly thereafter, the FDA issued a warning letter to Hi-Tech regarding the sale of Fastin and another one of its weight loss supplements, Liprodrene. In the letter, the FDA cautioned Hi-Tech, "Declaring BMPEA in your product labeling as a dietary ingredient causes your products marketed as dietary supplements to be misbranded under section 403(a)(1) of the Act [21 U.S.C. § 343(a)(1)] in that the labeling is false or misleading in any particular" (Correll & Dunnigan, 2015). Although the FDA does not appear to have taken any further actions, Hi-Tech subsequently sued Dr. Cohen, seeking $200 million in damages. The court ultimately ruled in Cohen's favor, but Hi-Tech's CEO stated that he stood by his lawsuit and that he hoped it would deter other academics from making similar allegations (Robbins, 2017).

As of March 2018, Fastin remains available from the company's website for the price of $69.99 per order and continues to be marketed with blatantly deceptive claims. For instance, descriptions on its website claim that the product is "the worlds most advanced weight loss aid ever," "revolutionary fat loss catalyst and apoptosis agent" and a "pharmaceutical-grade thermogenic intensifier for energy and weight loss" (Fastin, 2018). Additionally, according to the supplement's website, it currently contains Phenylethylamine, a stimulant characterized by the FDA as "a substance that does not meet the statutory definition of a dietary ingredient" (FDA, 2017). In 2015, the FDA sent a warning letter to Hi-Tech, stating that its use of the substance qualified its supplements, including Fastin, as misbranded and, therefore, in violation of the

Federal Food, Drug, and Cosmetic Act (Correll & Dunnigan, 2015). The persistence of Hi-Tech to use such marketing practices and substances, despite a decade and a half of enforcement actions, makes clear that the FTC's and FDA's response has been ineffective as well as an inefficient use of time and taxpayers' dollars.

D.2- The Obesity Research Institute

Research into the parent company responsible for the greatest number of TV ads containing explicit Red Flags, demonstrates that the case of Hi-Tech in not an anomaly. The Obesity Research Institute, via ads for its weight loss pill, Lipozene, accounted for 74% of the total number of TV ads with explicit Red Flags. This firm came under scrutiny in the early 2000s regarding advertisements for its products FiberThin and Propolene, which the FTC claimed contained Red Flags and, therefore, violated Federal. In 2005, the FTC reached a settlement with the firm, which issued a $1.5 million penalty to be paid in consumer and barred the company from making false claims about any other dietary product in the future (FTC File No. 032 3196, 2005). This judgement, however, failed to deter the Obesity Research Institute from making the same deceptive claims for a nearly identical product beginning just a year later and continuing until today.

Specifically, Lipozene contains the same active ingredient as the firms past products, glucomannan, and has been marketed with similar claims. Importantly, although advertisements for Lipozene state that it is "Clinically proven to help you lose pounds of body fat and weight without a change in lifestyle," glucomannan, has not been shown to promote substantial weight loss in randomized clinical trials (Keithley et al, 2013; Onakpoya, 2014). Despite the fact that consumer advocacy groups such as Truth in Advertising have pleaded with the FTC or that over

300 consumer complaints have been filed with the Commission in regard to the product, the agency has not filed further enforcement actions against Obesity Research Institute. Additionally, in 2014, the FDA sent two warning letters to Obesity Research Institute in regard to safety concerns. The FDA asserted that it had identified the presence of "undeclared active pharmaceutical ingredients" in certain products, including Lipozene, and claimed that the Obesity Research Institute "failed to comply with the Current Good Manufacturing Practice regulations" (Cruse, 2014). Consequently, despite multiple federal investigations, the front page of its website continues to make claims such as "Lose weight without changing your lifestyle!," "safe & effective," "clinically proven to help you lose weight," "still eat your favorite foods," and "no change in exercise required", all of which are in obvious violation of the FTC's Red Flag initiative (Obesity Research Institute, 2018). As of March 2018, Lipozene was still on the market, with annual sales above $31 million (Johnsen, 2016).